

INTRODUCTORY MUSICIANSHIP

A WORKBOOK

SEVENTH EDITION

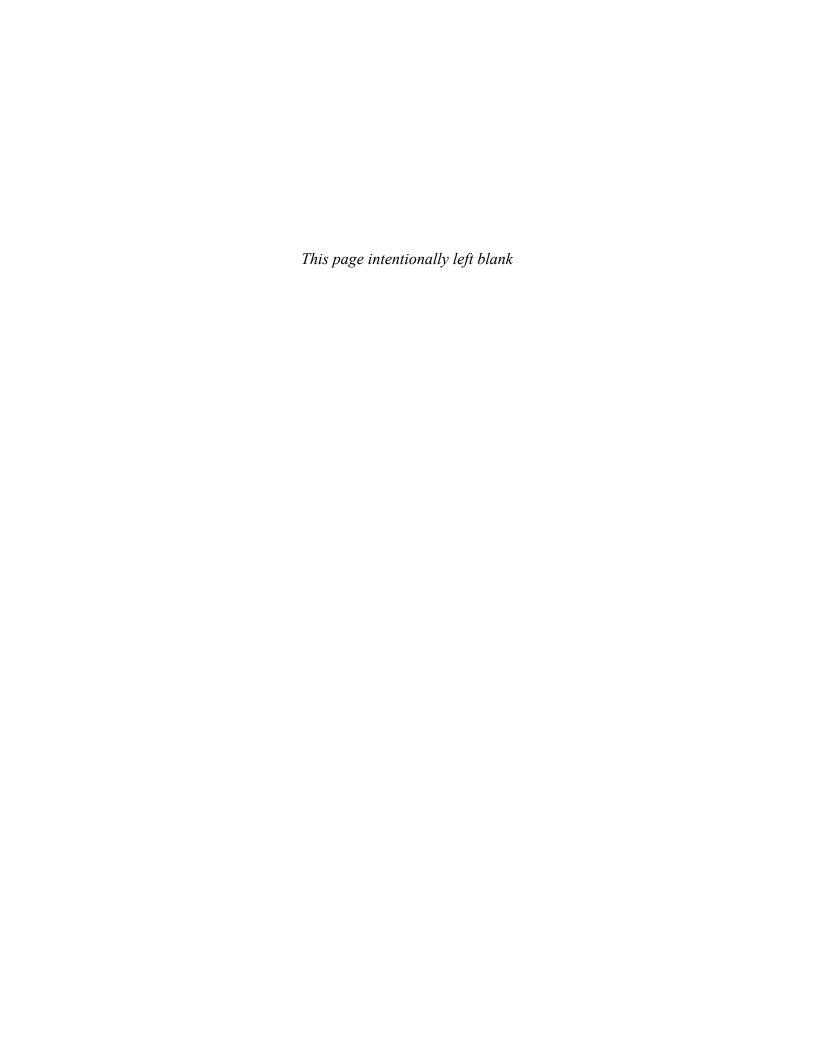
THEODORE A. LYNN

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A Workbook

SEVENTH EDITION

Theodore A. Lynn

Los Angeles Valley College





Introductory Musicianship: A Workbook, Seventh Edition

Theodore A. Lynn

Publisher: Clark Baxter Associate Development Editor: Julie Yardley Editorial Assistant: Emily Perkins Executive Technology Project Manager: Matt Dorsey Executive Marketing Manager: Diane Wenckebach Marketing Assistant: Marla Nasser

Marketing Communications Manager: Patrick Rooney Project Manager, Editorial Production: Trudy Brown

Creative Director: Rob Hugel Executive Art Director: Maria Epes Print Buyer: Judy Inouye
Permissions Editor: Joohee Lee
Production Service: A-R Editions
Text Designer: A-R Editions
Copy Editor: A-R Editions
Cover Designer: Brenda Duke

Cover Image: Brandtner & Staedeli/Corbis

Compositor: A-R Editions Text and Cover Printer: Webcom

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Printed in Canada 1 2 3 4 5 6 7 10 09 08 07 06

Library of Congress Control Number: 2005936520

10 Davis Drive Belmont, CA 94002-3098 USA

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ISBN 0-495-09094-8

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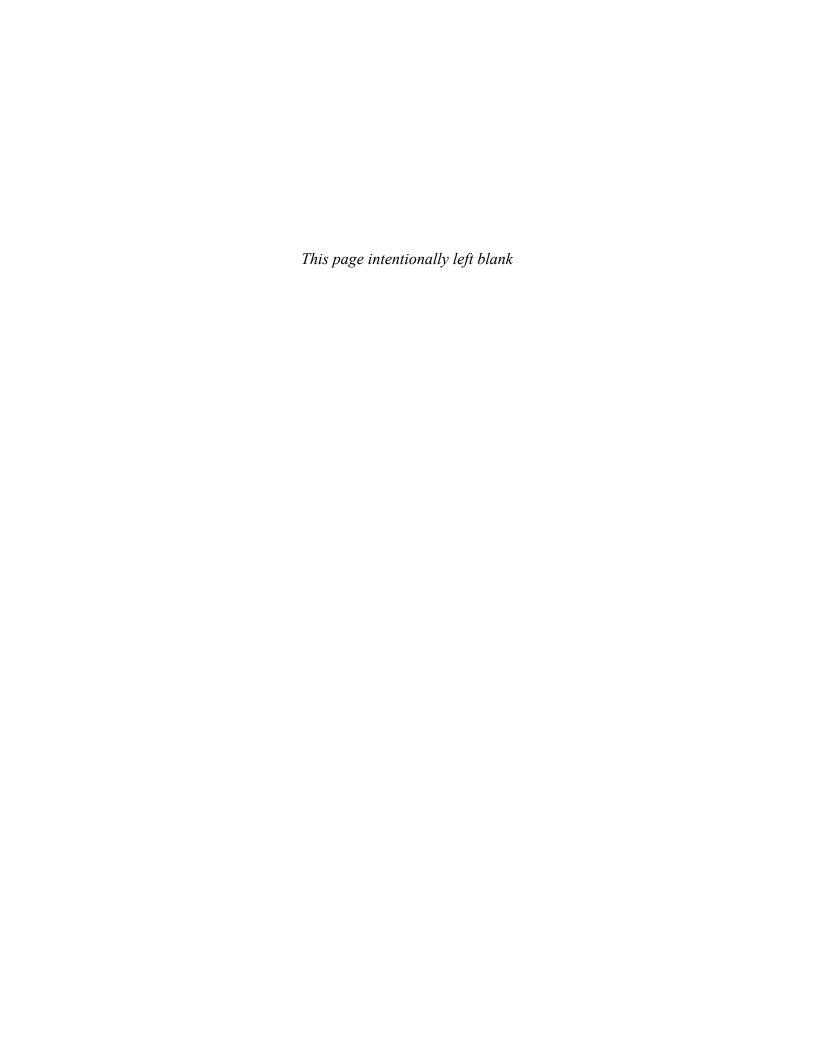
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Preface

Introductory Musicianship, now in its seventh edition, is a text-workbook in musical fundamentals that places particular emphasis on the basic skills of reading and writing music. It assumes students have no prior knowledge of music, and it is appropriate in either a one- or two-semester fundamentals course for nonmajors or in an introductory theory course for majors. The unusual organization of the book—six text units with worksheets, alternating with three units devoted entirely to rhythmic and melodic sight-reading exercises—allows a high degree of flexibility and has proved an invaluable feature of the book. This organization remains intact in this edition.

In other respects, many changes have been made to strengthen and improve the book. The discussion of certain topics has been revised and reordered for greater clarity and simplicity. Eight new worksheets have been added and many others have been revised. The pullout Keyboard for Piano and Guitar located at the front of the book now includes major and minor guitar chords and is laminated for durability. The text units present notation, meter, scales, and modes, intervals, triads, seventh chords, the basic principles of melodic writing and transposition, and harmonization and accompaniment. As with a foreign language, music must be experienced, not simply read about; therefore, the verbal explanations are brief and the musical examples are copious.

Also new to the seventh edition of *Introductory Musicianship* is a CD-Rom available at no additional cost. This resource contains all of the text's end-of-chapter worksheets in an electronic format, allowing you the ability to e-mail completed worksheets directly to your instructor.

Units 1, 3, 4, 6, 8, and 9 end with numerous worksheets, keyed in the margin to the corresponding text sections for the students' convenience in review. These worksheets, including an overall review test, recapitulate the entire contents of each unit and offer more than enough practice to give students ease and confidence with each theoretical concept.

Units 2, 5, and 7 present a large number of sight-reading exercises, carefully graded from easy to challengingly difficult. Each unit contains one-, two-, and three-part rhythmic exercises,

one- and two-part melodic exercises, valuable coordinated melodic-rhythmic exercises, and rhythmic and melodic dictation examples, all of which include and reinforce the material in the text units. The students learn to count both divisions and subdivisions of the beat, and they learn four ways of singing the melodic exercises—by pitch name, by scale-degree number, and by either movable or fixed solfeggio syllables. The sheer quantity of these exercises is one of their greatest virtues.

Many of the early examples in Unit 2 are readily adaptable to classroom dictation. For the rhythmic dictation, the instructor can first name the note value to be used as the unit of beat, establish the meter and tempo by clapping two or three preliminary bars, and then clap the exercise, with the students writing the note values they hear and adding bar lines. This process should be repeated no more than three times for each exercise. This approach can be similarly adapted to the melodic exercises. At first, the combination of rhythmic and melodic elements may pose too many problems. In such cases, the instructor may ignore meter signatures and note values, playing the melodies slowly, with an equal value for each note, and announcing both the first note and the clef. Later, when the students have gained ability and confidence in handling rhythm and melody separately, instructors can combine the two elements. The melodic examples in Unit 2 are also appropriate for the practice of transposition.

Periodically, measures are left blank. This offers students an opportunity to be more creative and, at the same time, provides a successful technique for learning to read music. After students have completed the work assigned in Unit 2, the instructor may place several of their examples on the board, clap or sing the examples, and then discuss reasons for one being more appropriate than another. The benefits from these exercises will far outweigh the extra time in class instruction they may entail.

The organization of the book allows instructors to introduce subjects in whatever order they wish. Each unit is planned for a flexible approach. For example, the book presents two ways of constructing scales, two ways of constructing intervals, and two ways of transposing a melody. Furthermore, the book includes more material than instructors can probably cover in most one-semester courses—such as the introduction to twelve-tone technique in Unit 3, the information about commercial chords in Unit 6, and some of the most difficult exercises in Unit 7. Besides its obvious usefulness in the two-semester sequence, this material is included to motivate and challenge students to continue their exploration of these subjects on their own.

I extend my sincere thanks to my many friends for their support; to the Los Angeles Valley College music faculty and staff; to Los Angeles Valley College professor Richard Kahn for his kind contribution; and a very special thanks for my colleague and friend, Los Angeles Valley College instructor Chauncey Maddren, for his invaluable contributions and time spent in preparation of this seventh edition.

I also want to thank those who reviewed the manuscript of the seventh edition for their helpful comments. They are Cathy Ann Elias of DePaul University, Dennis R. Herrick of Huntington College, Paula Keeler of Buena Vista University, Max Lifchitz of State University of New York—Albany, and Nico Schüler of Southwest Texas State University. Thanks also to reviewers of previous editions for their thoughtful suggestions: Wesley Abbott of Los Angeles City College, Kevin J. McCarthy of University of Colorado—Boulder, Mark Polanka of DePaul University, Lynn Shuntleff of Santa Clara University, Thomas Sovik of University of North Texas, and Arthur Unsworth of Appalachian State University.

Thanks also go to the Thomson editorial group: Clark Baxter, Julie Yardley, and Emily Perkins; to the production and manufacturing group: Trudy Brown and Judy Inouye at Thomson and Bonnie Balke at A-R Editions; to Diane Wenckebach, Executive Marketing Manager; Patrick Rooney, Associate Marketing Communications Manager; and Matt Dorsey, Executive Technology Project Manager, for his work on the CD-ROM.

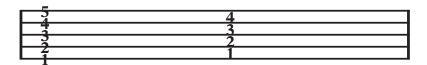
Most of all, I'd like to thank the students who have in the past helped and inspired me in the development of this textbook.

UNIT -

The Basics

1a The Staff—Stave(s)

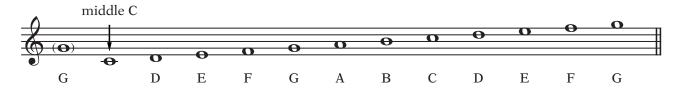
The **staff** is a series of five lines and four spaces on which notes are written. A four-line staff is still in use for the notation of Gregorian chant (the chant of the Roman Catholic Church), but all other conventional notation always uses the five-line staff. Lines and spaces of the staff, for identification, are numbered from bottom to top. The term **stave** is seldom used in the singular form; however, it is often used in the plural form (e.g., one *staff*, two *staves*).



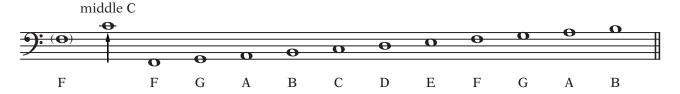
1b Clefs

A **clef** is a sign written at the beginning of the staff to indicate the pitch name—A, B, C, D, E, F, or G—for a given line. There are three clef signs, representing the pitches G, F, and C, and the shapes of the signs are modifications of the shapes of these letters. The variety of clefs and clef positions results from the desire to avoid too many ledger lines (see 1c1). In early music notation, whenever the range of a voice or instrument exceeded the five-line staff, composers or music copyists would change the position of the clef or introduce another clef. In contemporary music, the changing of the position of the clef or introducing another clef is less common. In the following list of clefs, the arrow indicates the position of middle C (the C nearest the middle of the piano keyboard) as it is notated in each clef.

(1) G CLEF (TREBLE CLEF)

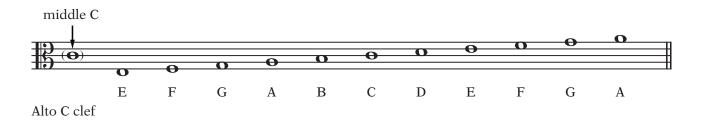


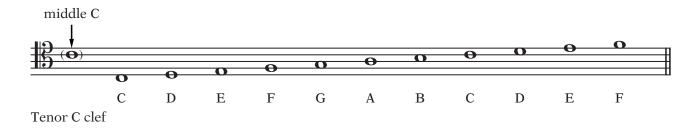
(2) F CLEF (BASS CLEF)



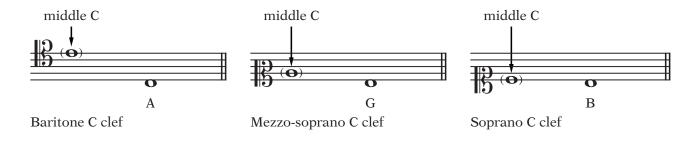
(3) C CLEF

Although in early music the G and F clefs were movable, they are now stationary. The C clef remains movable from one line to another, allowing the notes to remain within the staff. All five C clefs were commonly used until the middle of the eighteenth century, when composers gradually abandoned all but two of the positions: the alto and the tenor. The alto clef is still used to notate music for the viola, and the tenor clef is occasionally used for the cello, string bass, viol, bassoon, and trombone. The center of the curved line indicates the placement of middle C.





The following C clefs are seldom used.



With the availability of seven clefs—treble, bass, and five C clefs—any line or space could be any of the seven pitch names.



(4) DRAWING THE CLEFS

Treble Clef

Draw a vertical line.

Draw a curved line ending at the fourth line up.

Beginning with the fourth line, complete the clef by forming an incomplete circle in the bottom two spaces. The circle designates the note G.



Bass Clef

Beginning on the fourth line, draw a curved line to the right, ending on the second line directly under the beginning point. Place two dots to the right of the clef above and below the fourth line. The dots designate the note F.



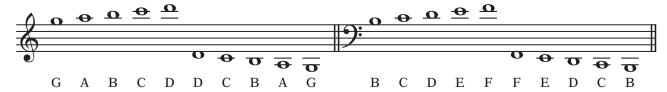
The original C clefs were literally the letter C. We now form this clef by drawing a stylized letter C that delineates the line we wish to designate as C.



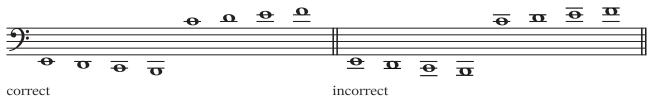
1c Extending the Staff

LEDGER LINES

For notes beyond the range of the five-line staff, small line segments called **ledger lines** are added above or below the staff, so that higher or lower notes may be written. Ledger lines are spaced with the same distance between them as that between the lines of the staff. They are just wide enough to extend slightly to the left and right of the note.



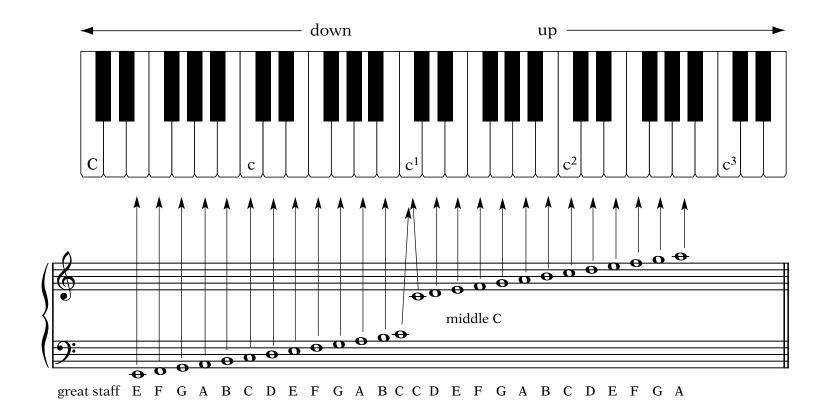
The note is placed on the last ledger line or in the space beyond the last ledger line. A ledger line is *never* used beyond the note.



1d The Great Staff

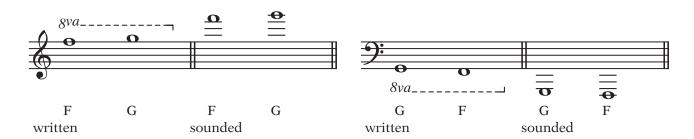
(1) The **great staff** (or grand staff) is a double staff with both a treble clef and a bass clef. All the most frequently used pitches can be written on this staff. Middle C is placed between the two staves. The great staff can be considered an eleven-line staff with middle C occupying the short eleventh line, or ledger line.

The piano keyboard is arranged in a pattern of seven white and five black keys and is repeated seven times on the modern 88-key piano. The black keys are in repeated patterns of two and then three. The note C is the first white key to the left of the two black keys. Western music divides the pitch into half steps (semitones): one key to the next *closest* key, white to black, black to white, and in the case of E-F and B-C, white to white. (See 1k.)



(2) OCTAVE SIGN (8va)

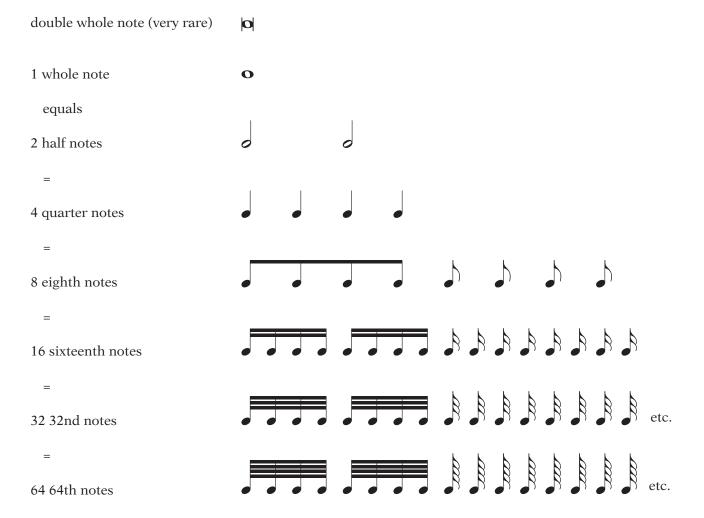
The range of the staff can be further extended with the **octave sign** *8va*, indicating that the notes in the bracket are to be played an octave higher or lower. An octave is the pitch with the same name eight notes above or below the given pitch. The octave sign *15ma* indicates two octaves or fifteen pitches higher. The octave sign *8va* below a group of notes is not used in the treble and C clefs, and *15ma* below a group of notes is extremely rare.



1e Notes

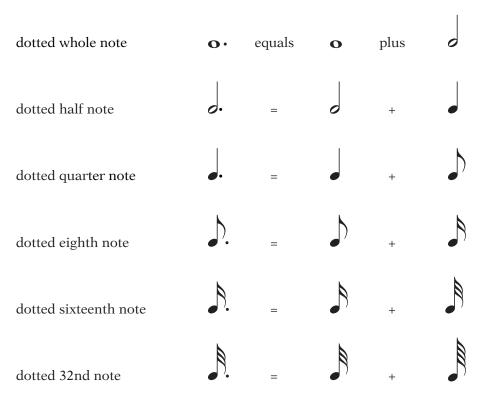
(1) NOTE SYMBOLS

Notes are symbols indicating the relative duration and pitch when placed on a staff. Beginning with the whole note, each succeeding note is divided by two.



(2) DOTTED NOTES

A dot after a note adds one half to the durational value of the note.



A double dot may be added to a note. It adds one half plus one quarter to the value of the note.

double-dotted quarter note = + + + +

The dot is always added to the right side of the note. If the note is on a line, the dot is placed in the space above. If the note is in a space, the dot is placed in the same space.



(3) STEMS

As you just saw, all notes except whole notes have **stems.** Stems are drawn down if notes are above the middle line of the staff, and up if notes are below the middle line. Stems drawn up are placed on the right side of the note; stems drawn down are placed on the left side. The stem is usually an octave in length and, in notes using ledger lines, the stem extends to the middle staff line. For the middle-line note, stems may go up or down, but down is more usual.



(4) FLAGS

Flags (or hooks) denote values shorter than a quarter note; they always extend to the right of the stem. Eighth notes have one flag, sixteenth notes have two flags, 32nd notes have three, and 64th notes have four.



(5) BEAMS

In instrumental music, and increasingly in vocal music, it is customary to use **beams**—horizontal lines—in place of flags for groups of eighth, sixteenth, 32nd, and 64th notes. The number of beams corresponds to the number of flags: one beam for eighth notes, two for sixteenth notes, and so on. Beams can be used with notes of different values, as long as they have values shorter than a quarter note. The combined note value of the beamed notes will generally equal a single beat as indicated by the meter signature (e.g., in $\frac{1}{4}$ the combined beamed notes will equal one quarter note).



In beaming several notes together, place the beam above if the majority of stems would normally go up. If the majority of stems would normally go down, the beams are placed below. If there is no majority, use the direction of the note farthest from the middle line of the staff. Beams should more or less reflect, in a straight line, the overall contour of the note group.



(6) TIES AND SLURS

The **tie** is a curved line connecting two or more notes of the *same pitch*. The tie allows a note to be sustained across a bar line and is frequently used to arrive at a note total that is not otherwise available—a quarter note tied to a dotted quarter note, for example, produces a five-eighth note. The tied notes are not articulated but are sustained as a single note reflecting the sum of the tied notes.



A tie is necessary if a note is held beyond a bar line or if the same note is connected across two or more measures.

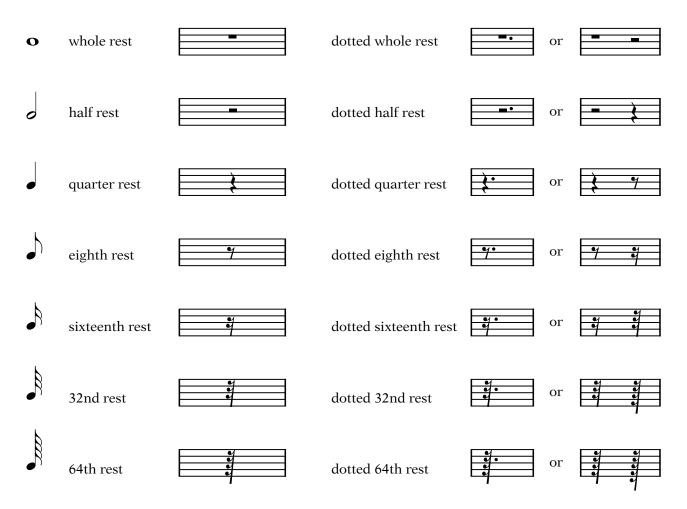


A curved line placed above or below a group of notes of different pitch is called a **slur.** It indicates that the notes are to be performed *legato*, smoothly connected with no breaks between them.



1f Rests

Rests indicate silence. Each note value has its corresponding rest sign. The whole rest and half rest are placed in the third space on the staff: the whole rest in the top half of the space and the half rest in the bottom half of the space. Rests are never tied, since a succession of rests produces an uninterrupted silence without any additional sign. Dotted rests are usually avoided. A rest for the note and an additional rest for the dot are preferred.



A whole rest serves as a full measure rest in any and all meters. Double-dotted rests are possible but rare. As with notes, the double dot adds one half plus one quarter value to the rest.

In ensemble music, parts may have several measures of rest at a time. A long rest sign, with a number above, indicates the number of measures of rest. The rest sign is drawn through the center line.



Meter Signatures

The **meter signature** (or time signature) at the beginning of a piece indicates a recurring pattern of accented and unaccented beats (or pulses) that generally remains unaltered throughout a piece of music. The top number of the meter signature indicates the number of beats in the pattern, and the bottom number indicates the note (or rest) value of the beat. The recurring patterns are grouped into bars, or *measures*, and are separated from each other on the staff by bar lines.

(1) ACCENTED AND UNACCENTED BEATS

The first beat in each bar, often called the downbeat by musicians, receives the main accent or stress ('). Sometimes another beat or other beats in the bar receive a secondary stress (-). The remaining beats are unstressed (\cup) .

2 → two beats in the bar4 → quarter note gets one beat



 $\mathbf{3} \rightarrow$ three beats in the bar

 $\mathbf{8} \rightarrow \text{eighth note gets one beat}$



 $\mathbf{4} \rightarrow$ four beats in the bar

 $4 \rightarrow$ quarter note gets one beat



Note the secondary stress in this example.

Meter signatures generally fall into two categories. Basically, simple meters divide the beat into two; compound meters divide the beat into three. Further subdivision for both meter types subdivide into multiples of two.

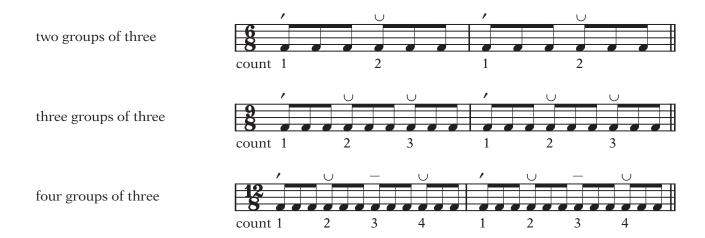
Following is a list of the most common simple and compound meters, with stressed and unstressed beats indicated.

(2) SIMPLE METERS



(3) COMPOUND METERS

Compound meters, such as \S , \S , and \S , differ from the preceding simple meters in that the beat divides into groups of *three*.



In compound meters played at a slow tempo, or speed, the eighth note receives one beat, the quarter note receives two beats, and the dotted quarter note receives three beats.

In a fast tempo, which is more usual for compound meters, the dotted quarter note receives one beat, the dotted half note receives two beats, and the tied dotted half and dotted quarter receive three beats.

But the most important thing to remember about compound meters is how they differ from simple meters. It is easy to distinguish the two types by remembering that simple meters divide the beat into groups of *two*, while compound meters divide the beat into groups of *three*.



(4) UNEQUAL METERS

In twentieth-century music, meter signatures with **unequal divisions** of the measure, such as $\frac{5}{4}$, $\frac{5}{8}$, $\frac{7}{4}$, and $\frac{7}{8}$, are widely used. The stressed and unstressed beats in $\frac{5}{8}$ and $\frac{7}{8}$ can be clearly defined by the use of beams.

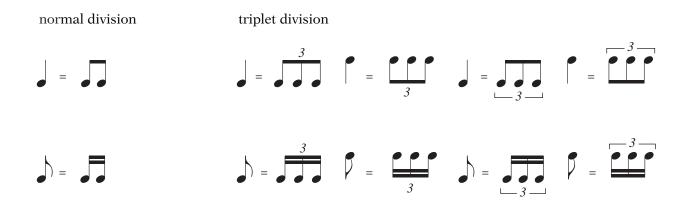


The possibilities for other unequal divisions are limited only by the composer's imagination.

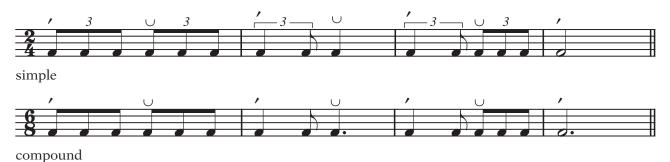


(5) TRIPLETS AND DUPLETS

A *triplet* is a "borrowed" grouping of three in an otherwise normal pattern of division by two. Triplets are indicated by a 3 placed above or below the beamed three-note group or with a bracket. Any note value may be used to form triplets, although the eighth-note triplet is the most often used. What all triplets have in common is that their total duration is equal to the duration of one note of the *next larger value*.



The following example is written in $\frac{2}{4}$ meter with triplets, and then in $\frac{6}{5}$ meter. Both versions sound exactly the same; only the notation differs. By the use of the triplet, simple meters can be made to sound like compound meters.



A *duplet* is a "borrowed" grouping of two in an otherwise normal pattern of division by three (compound meters). Duplets are indicated by a bracket and a 2 over the notes. Any note value may be used to form duplets, although the eighth-note duplet is most often used.

normal division

duplet division

or
$$\int_{-2}^{2}$$

or \int_{-2}^{2}

or \int_{-2}^{2}

or \int_{-2}^{2}

The following example is written first in § meter with duplets and then in $% \frac{1}{2}$ meter. Both versions sound exactly the same; only the notation differs. By use of the duplet, compound meters can be made to sound like simple meters.



1h Double Bars

A **double bar** is placed at the end of a work. It consists of a narrow bar line and a wider bar line.

A double bar with two narrow bar lines designates the end of part of a work or section, but not the final close.

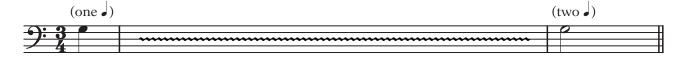


1i The Anacrusis

A composition does not always begin on the first beat of the first measure. One or several notes can occur beforehand. These additional notes are called an **anacrusis** (or upbeat or pick-up note[s]). In vocal music, an anacrusis occurs when one or more unstressed syllables appear before the first stressed syllable.

 \cup , \cup , \cup , \cup , The / cow jumped / over the / moon.

Formerly, the number of beats or the fraction of a beat used in the anacrusis was subtracted from the last measure of the work; in some cases, modern practice utilizes a complete final measure.



Accidentals

Accidentals are sharps, flats, or naturals introduced within the body of a work—in contrast to the sharps or flats found in the key signature (3d). An accidental is always placed in front of the note it affects (i.e., on the same line or space as the note to which it refers).

A **sharp** (#) raises the pitch of a tone by a half step. A flat (b) lowers the pitch of a tone by a half step. Half steps may be either chromatic or diatonic (see 1k).



A **natural** (\$) is used to cancel a sharp or flat within a measure.



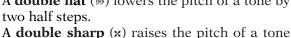
Except for the sharps and flats in the key signature (3d), the bar line cancels all accidentals in a previous measure.



Except for sharps and flats in the key signature (3d), an accidental affects a note only in the measure in which it appears, and only on that one line or space. For example, the second note in this measure is F
atural, but the third note is F#.



A **double flat** (\(\beta\)) lowers the pitch of a tone by two half steps.



by two half steps.



To cancel a double sharp or flat within the measure, only a single natural sign is required.



To cancel part of a double sharp or flat, a natural sign and the sharp or flat sign may be used but is not necessary. A single sharp or flat is sufficient.

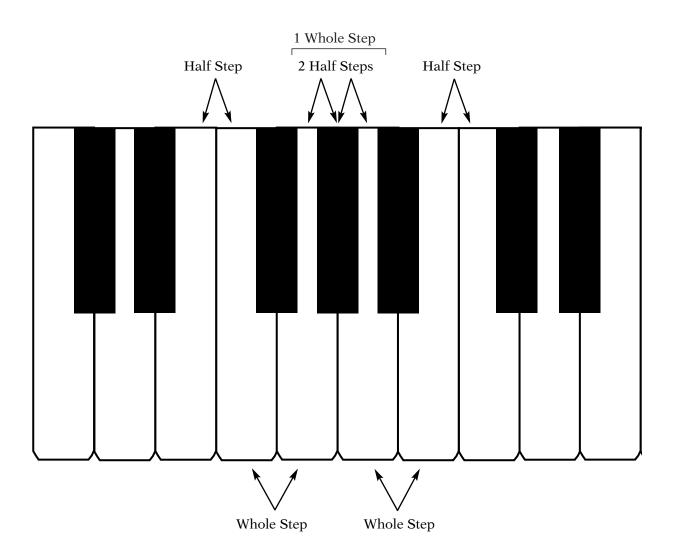


1k Half Steps and Whole Steps—Chromatic or Diatonic

In most Western music, the smallest interval, or distance, between two tones is a **half step** (semitone).

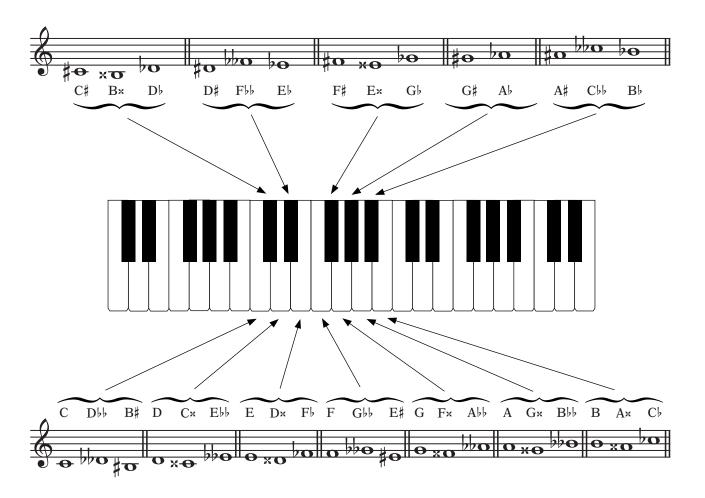
Two consecutive half steps combined make a **whole step.** Looking at the piano keyboard, you will notice a black key between C and D. The distance from C up to that black key is a half step. From the black key to D is a second half step. The two half steps combined result in a whole step. The nearest key, black or white, above or below any other key is a half step. Therefore, the next white key above B or E, or below C or F, is a half step.

Half steps may be either *chromatic* or *diatonic*. Chromatic half steps employ the same letter name (e.g., F to F# or B to Bb). Diatonic half steps employ adjacent letter names (e.g., F to Gb or B to A#).



11 Enharmonic Equivalents

With the exception of G# and Ab, every tone can have three different names, as shown below. Tones that are named differently but that sound the same are called **enharmonic equivalents.**



1m Repeat Signs

(1) D.C., D.S., CODA, AND FINE

Several kinds of **repeat signs** are used to direct the performer to skip back or forward through a work. These signs are used to avoid writing out long repeated passages.

D.C. (da capo)—repeat from the beginning

D.S. (dal segno)—repeat from the sign (*)

fine—the end

D.C. al fine (*da capo al fine*)—repeat from the beginning to the end (the word *fine*)

D.S. al fine (dal segno al fine)—repeat from the sign (%) to the end (the word fine)

coda—a section at the end of a work

D.C. al coda—repeat from the beginning to the coda sign (Φ) and then skip to the coda

D.S. al coda—repeat from the sign (%) to the coda sign (\bigoplus) and then skip to the coda

(2) FIRST AND SECOND ENDINGS

Sometimes, when music repeats, first and second endings are used in order to save space. The first ending, which has a repeat sign, is played only the first time through. The second time through, the first ending is skipped over and the second ending is played.



Another repeat sign, frequently seen in contemporary commercial music, is a sign indicating the repeating of one or two measures. In patterns that are repeated over and over, this method proves a time-saver for both the composer and the copyist. A one-measure repeat is represented by the sign placed inside one measure.



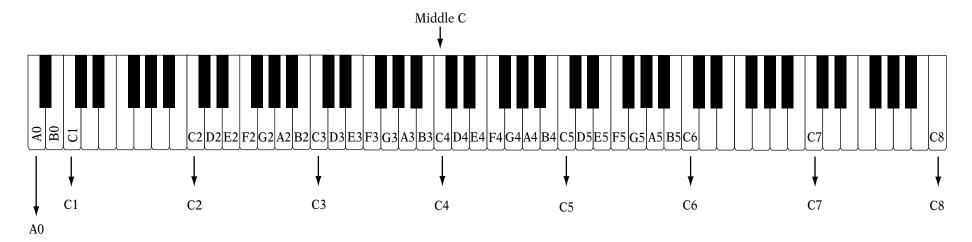
A two-measure repeat is represented by the sign bridging two measures, with a 2 placed above the staff.



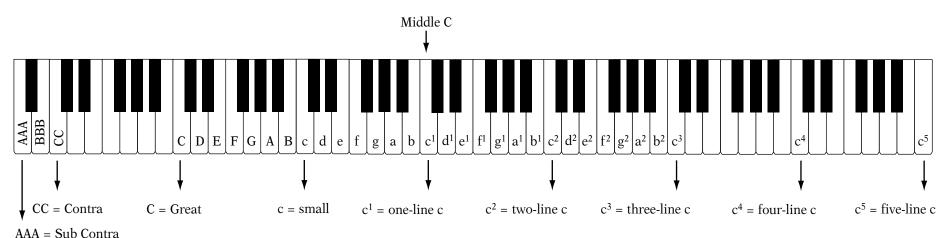
1n Keyboard Octave Registers

The standard 88-key piano keyboard has eight A, B, and C keys and seven D, E, F, and G keys. To enable you to describe clearly which "A" you are discussing, each octave register (C–B) has been assigned a specific letter register. Two methods of register identification are presently available.

The most recent method of register begins with the lowest C indicated as C1 and continues upward to C8. The notes below C1 are designated A0 and B0. Therefore, middle C would be C4 and ascending from there D4, E4, F4, etc.

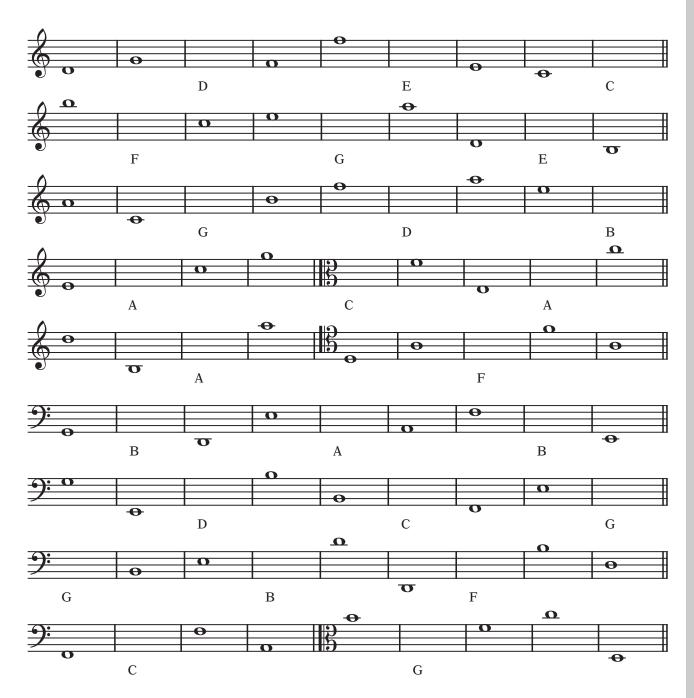


Another method of register identification begins with one octave below middle C of the piano, lower-case letters are used for the ascending octaves and upper-case letters for the descending octaves. In this system, middle C is c^1 , or one-line c, and ascending from there would be d^1 e^1 f^1 , etc.



1b 1c

Write the name of each of the following notes below the note or place the notes on the staff above the indicated names. In examples where two notes are available within the staff, write both notes.



Answer for line one.

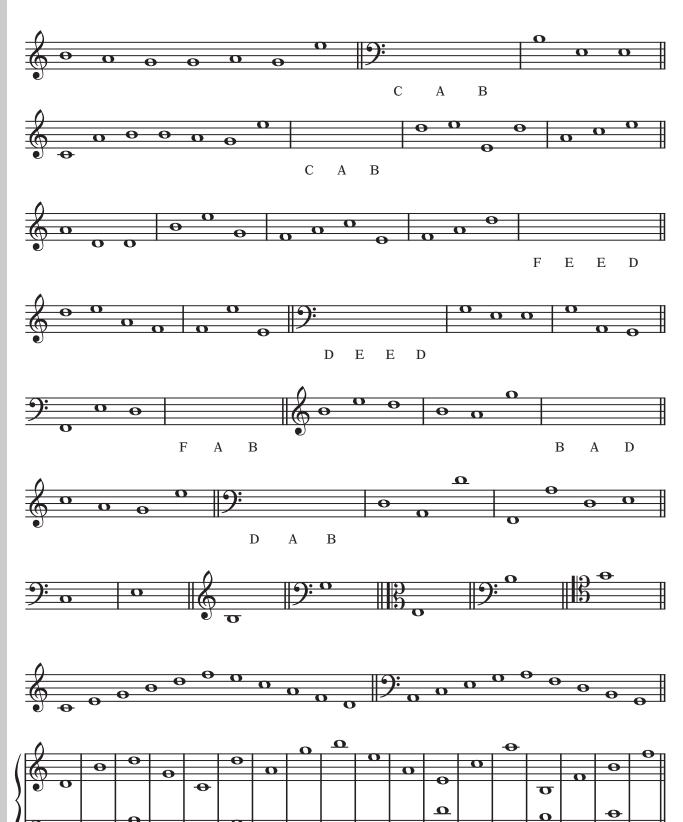




NAME _____

 $\mathbf{\sigma}$

Write the name of each of the following notes below the note or place the notes on the staff above the indicated names.

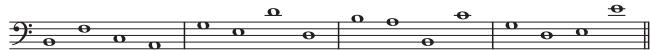


20

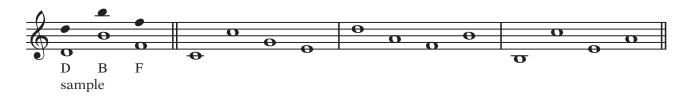
NAME

Write and name notes one octave below the given notes.





Write and name notes one octave *above* the given notes.





Add stems in the proper direction to the following note heads.



Stem and beam the following notes in pairs of eighth notes.



Stem and beam the following notes in groups of four sixteenth notes.



1e

(3)

1e

(5)



NAME

Identify all the notes by octave designation. For this exercise in octave designation, use the more recent method of uppercase lettering. See page 00.

© C6

© C5

© C4

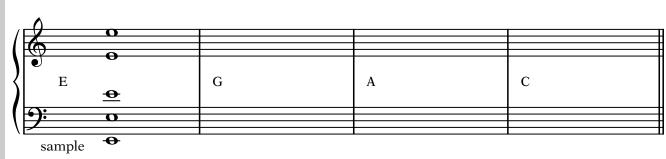
© C3

Sample ▼ C2

0	O	Ω
/		
		0
		σ
<u> </u>		O
(19:		
		0
ν		- 1

For each letter name, write all the possible notes up to two ledger lines above or below the staff. The space between the treble and bass staffs may have the same note, which can be drawn to indicate its relationship to the treble or bass clef. In those cases write both.

1b 1c 1d



/ 		
D	F	В
1 163:		
\ `` '		
\ \		

(2)

Divide the first note in each measure into the correct number of smaller notes indicated in parentheses.

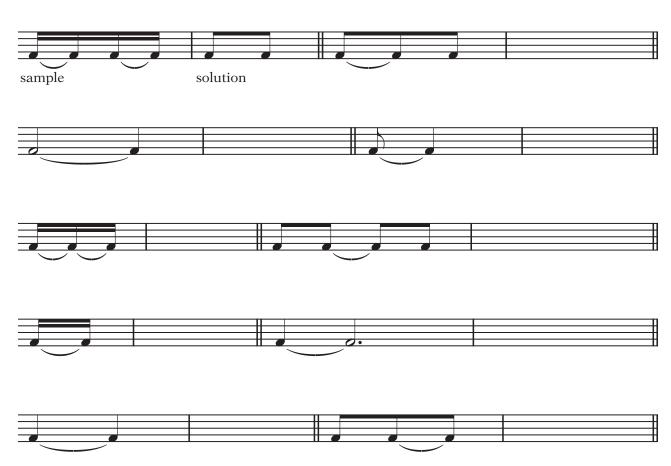


Write one note that is equal in length to the given notes. Use dots as necessary.

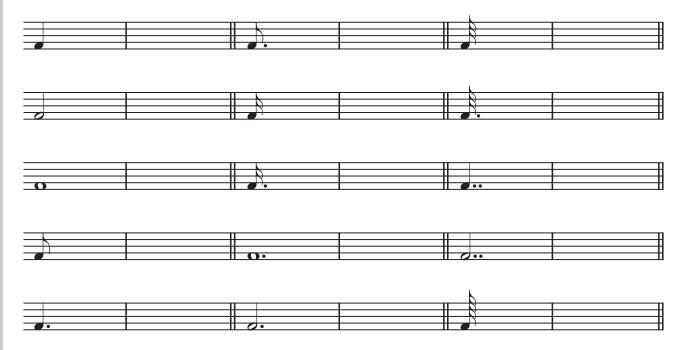
1e

(6)

Give a simplified notation for the rhythms below, substituting *one note*, with a dot if necessary, for each set of tied notes, as in the sample.



Write the rest(s) that has (have) the same value as each of the following notes. For dotted notes, write the equivalent rests *without using dots*.



1g

Place correct bar lines in each of the following rhythmic exercises. All examples begin on a downbeat.











Add a correct meter signature to each of the following measures. In some examples more than one meter signature will be correct.









Each of the following measures is rhythmically incomplete. Complete each measure by adding *one note* of the proper value, as in the sample. Do not place notes between two notes tied together.



Write a note a diatonic whole step above and below the following notes.





Write a note a diatonic half step above and below the following notes.



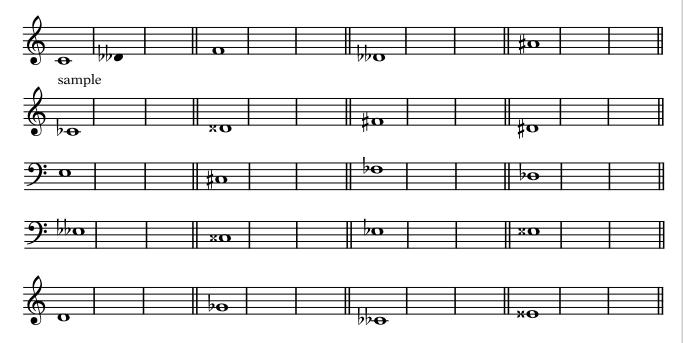


Write a note a chromatic half step above and below the following notes.



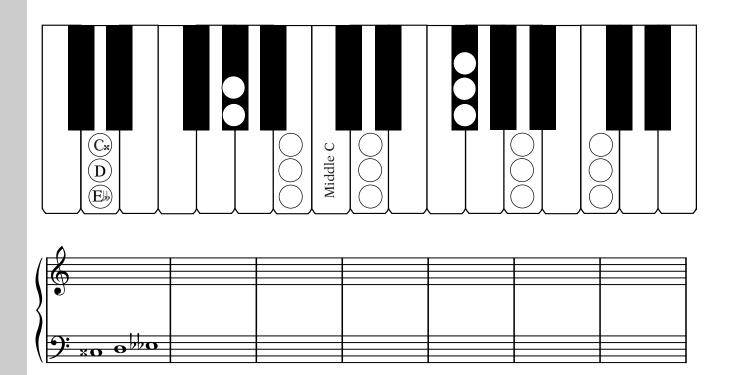


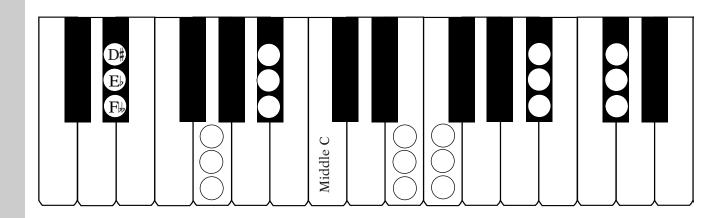
Write the enharmonic equivalents for each of the following notes.

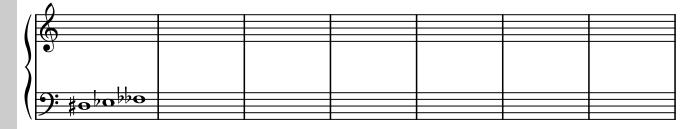


1k

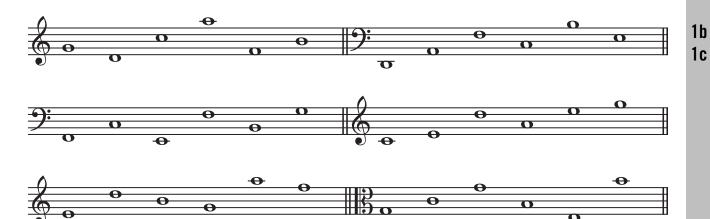
1d 11 Fill in the circles on the piano keyboard with the appropriate letter names and their enharmonic equivalents. (Refer to the keyboard at the end of the text.) Then write those notes on the Grand Staff below. Be sure to note the placement of Middle C on the keyboard.



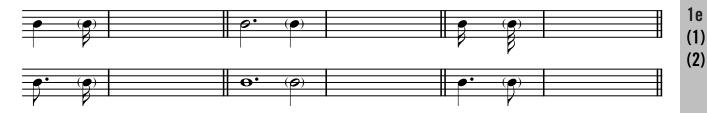




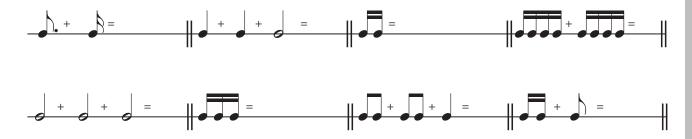
1. Write the name of each of the following notes below the note.



2. Divide the first note in each measure into the correct number of smaller notes indicated in parentheses.



3. Write *one* note that is the durational equivalent of the note values shown. Use dots as necessary.



4. Write the rest(s) that has (have) the same value as each of the following notes. Do not use dotted rests.



1k

5. Write a note a diatonic whole step above and below the following notes.





6. Write a note a diatonic half step above and below the following notes.





7. Write a note a chromatic half step above and below the following notes.





8. Write two enharmonic equivalents for each of the following notes.





11

1g

1g

9. Add a correct meter signature to each of the following measures. In some examples, more than one meter signature will be correct.

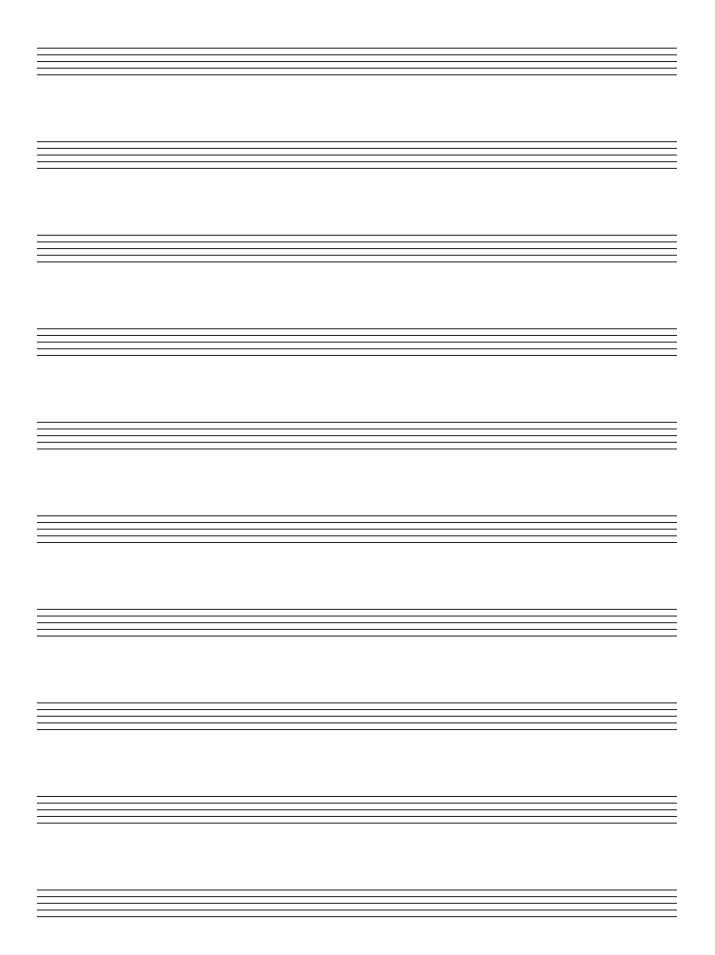


10. Place correct bar lines in the following rhythmic exercises.



11. Each of the following measures is rhythmically incomplete. Complete each measure by adding *one note* of the proper value. Do not place notes between two notes tied together.





UNIT 9

Rhythmic and Melodic Exercises—Easy

2a Rhythmic Exercises: Group 1

The following suggestions will help you establish good practice habits in these rhythmic exercises.

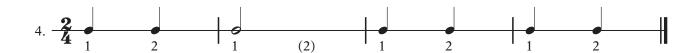
- 1. Before beginning, establish a moderate tempo, counting out loud or tapping your foot for at least two measures. On the metronome, a setting of 80 or 84 (that is, 80 or 84 beats per minute) will be comfortable. If you do not have a metronome, use a watch with a second hand and tap a bit faster than once per second. *Never practice too fast*; it is the downfall of all beginners.
- 2. Clap the strong beats louder than the weaker beats. For notes with more than one beat, clap the first beat aloud and silently clap the remaining beats. In 4, for example, the whole note will be clapped aloud on one and silently clapped on two, three, and four.
- 3. *Count out loud*. For notes that last more than one beat, count the first beat aloud and whisper the remaining beats. In the first few exercises, the beats that are to be silently clapped and whispered appear in parentheses. In later exercises, write the beat numbers below the notes only if absolutely necessary.

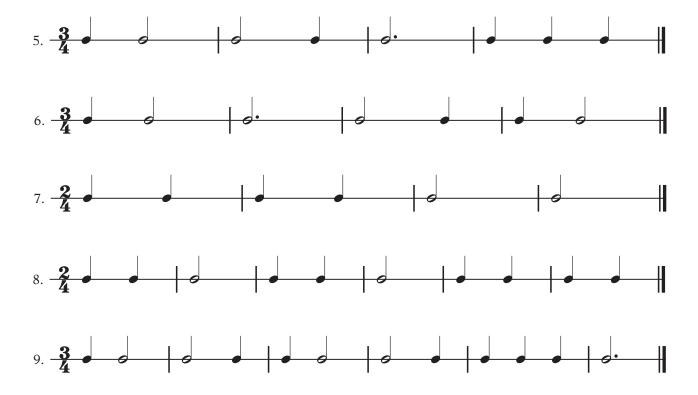
(1) SIMPLE METERS WITH NO BEAT DIVISION, USING o, J., AND J









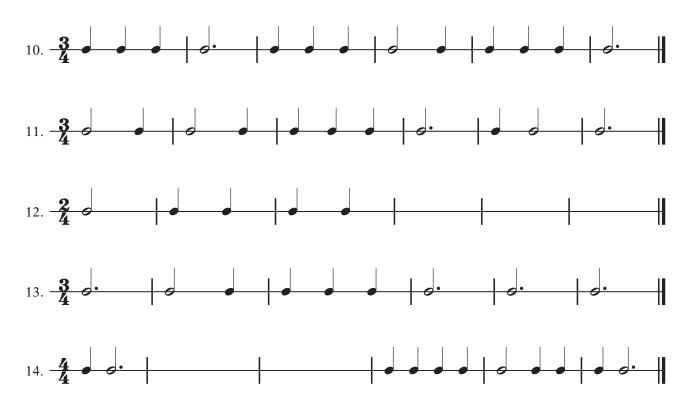


Periodically, measures will be left blank. Compose rhythms to complete the exercise.

Rhythm could be defined as a musically satisfying arrangement of note values within a basic pulse indicated by the meter signature.

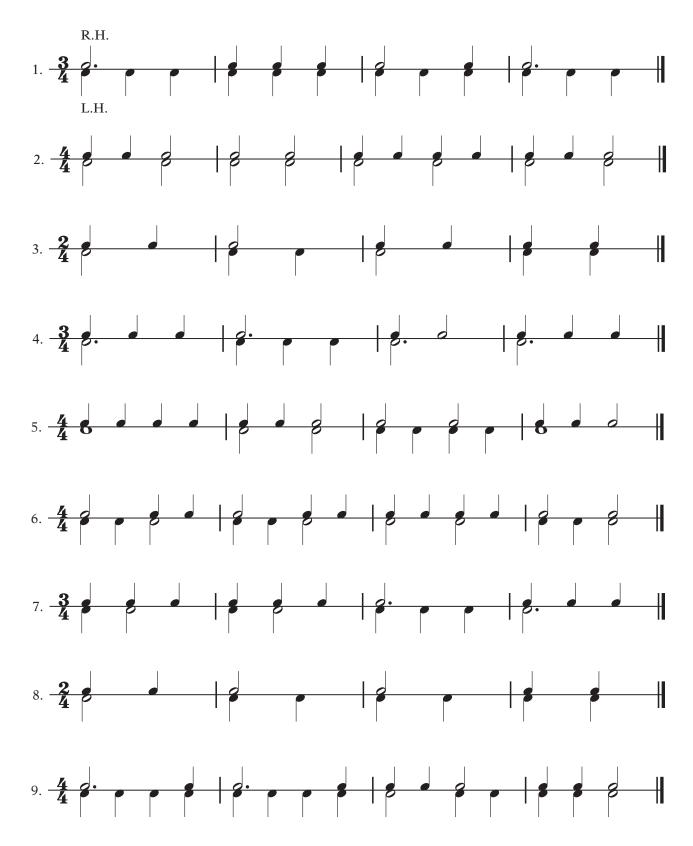
Remember:

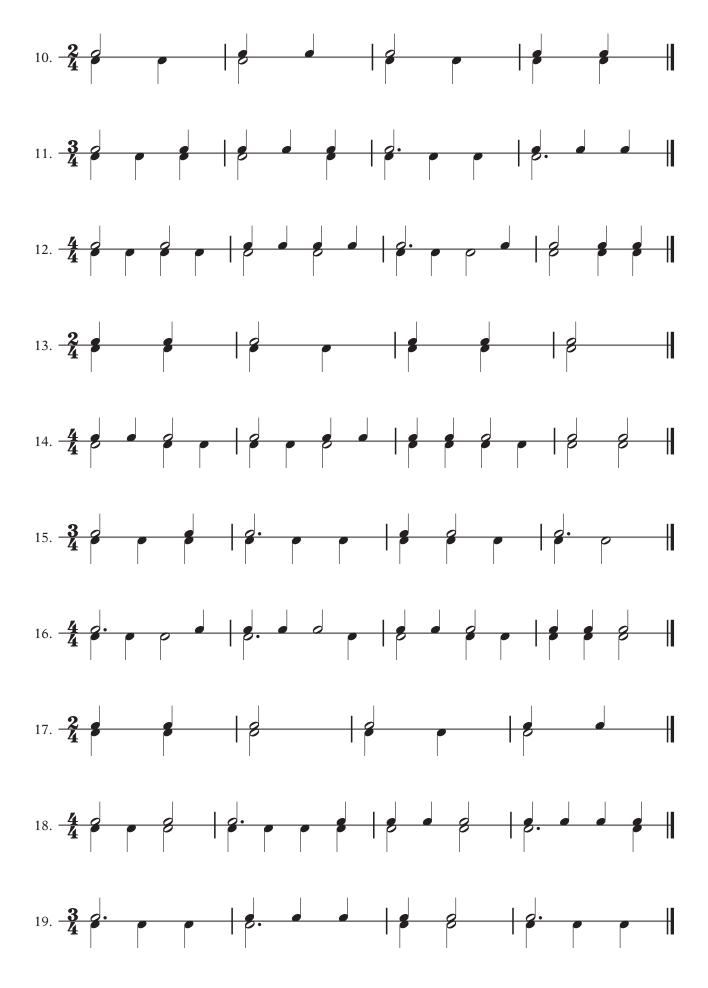
- 1. Limit note values to those found in this unit.
- 2. Be sure you have the combined note values indicated by the meter signature.
- 3. Look for rhythmic patterns that precede or follow the blank measures.
- 4. Compose rhythms that are consistent with the remaining measures of the exercise. In other words, don't do something radically different from what is already there.



(2) COORDINATED-SKILL EXERCISES

The following two-hand exercises will help you develop the skill of reading and performing two rhythmic patterns at the same time. On a table, desk, or your knee, tap the notes below the line with your left hand; then tap the notes above the line with your right hand. After tapping each line separately, tap them together. *Practice slowly*.

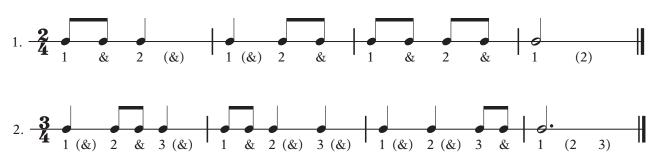




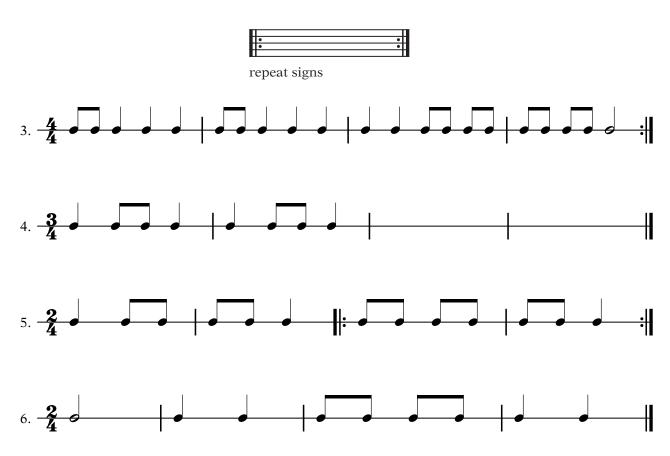
2b Rhythmic Exercises: Group 2

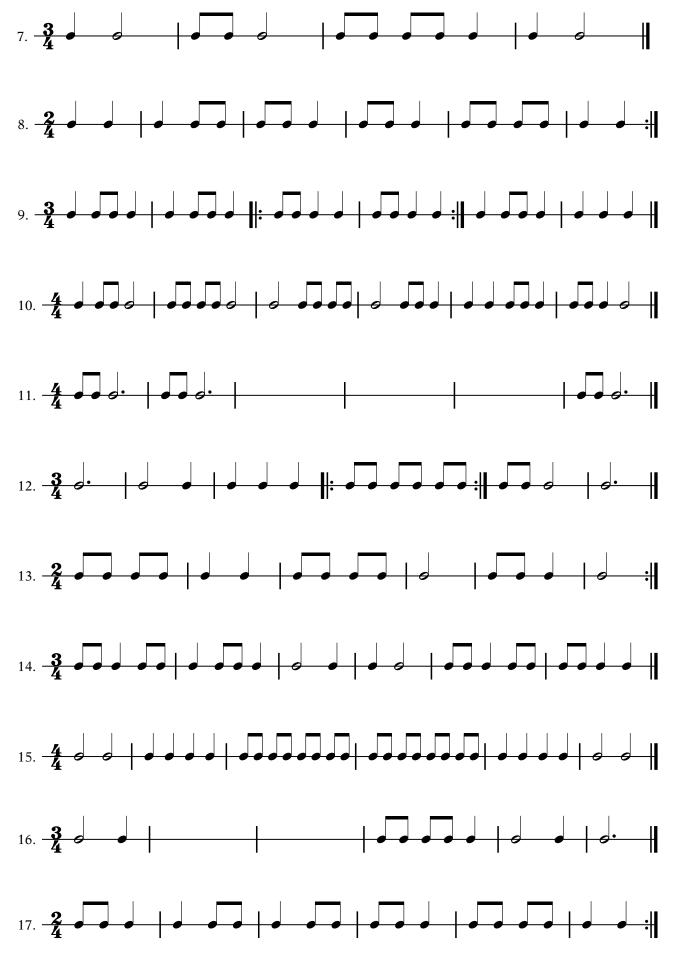
(1) SIMPLE METERS WITH BEAT DIVISION; NEW MATERIAL—♪ AND □

In counting simple meters, the division of the beat requires an additional word. Add the word *and* to the second, weaker half of the beat, like this: "ONE-and *two*-and *three*-and," etc. When you tap your foot, the tap down is the beat, the motion up is "and." Counting out loud will help you establish a stronger feeling of rhythmic patterns. *Practice slowly*.

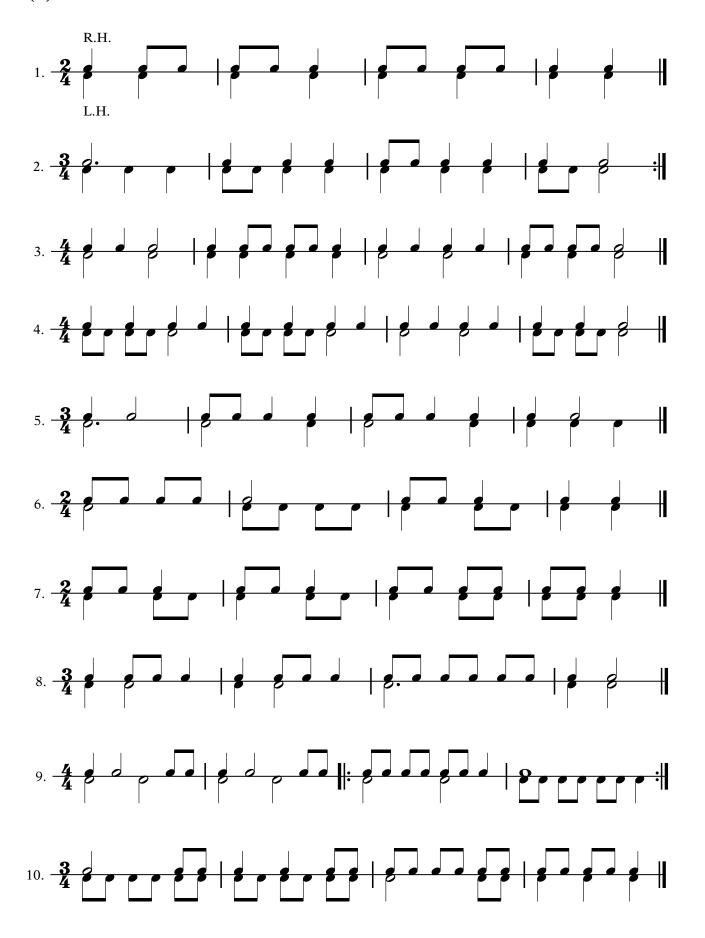


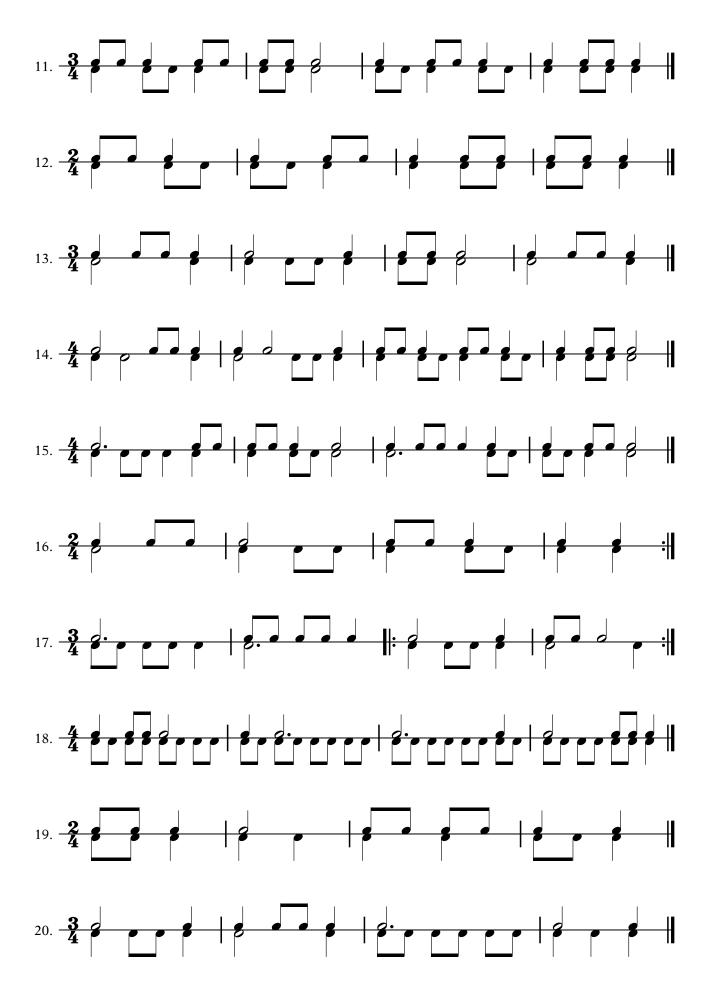
Sometimes the double bar with two dots is used in pairs to indicate a repeat. the measure(s) within the repeat signs are played twice. The repeat signs always have two dots on the inside, facing the measure(s) to be repeated. If the repeat is to the beginning of a work, a sign at the beginning is not required.



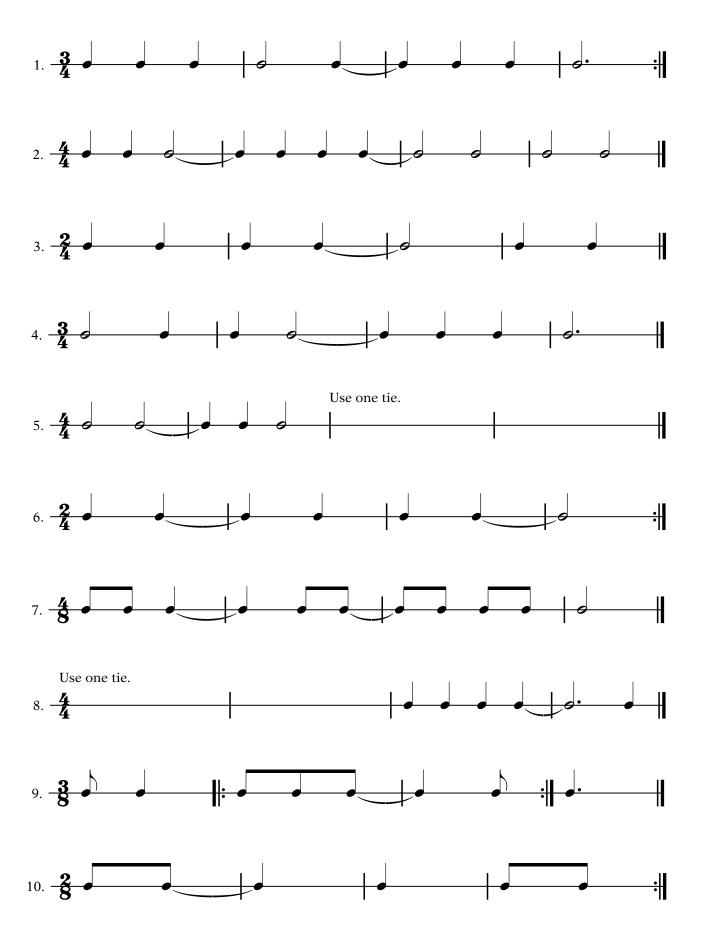


(2) COORDINATED-SKILL EXERCISES





(3) NEW MATERIAL— $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, AND TIES



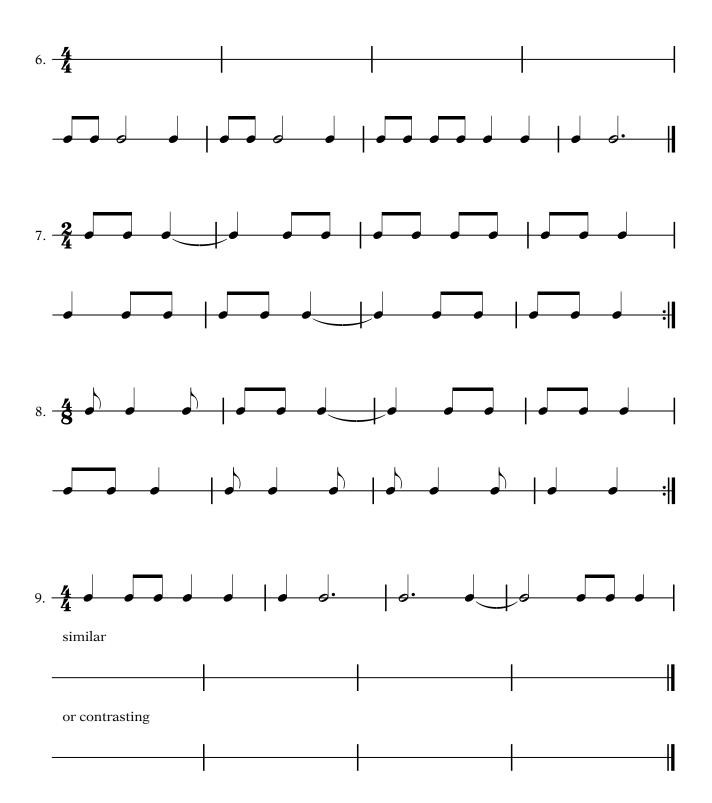


(4) EIGHT-MEASURE EXERCISES



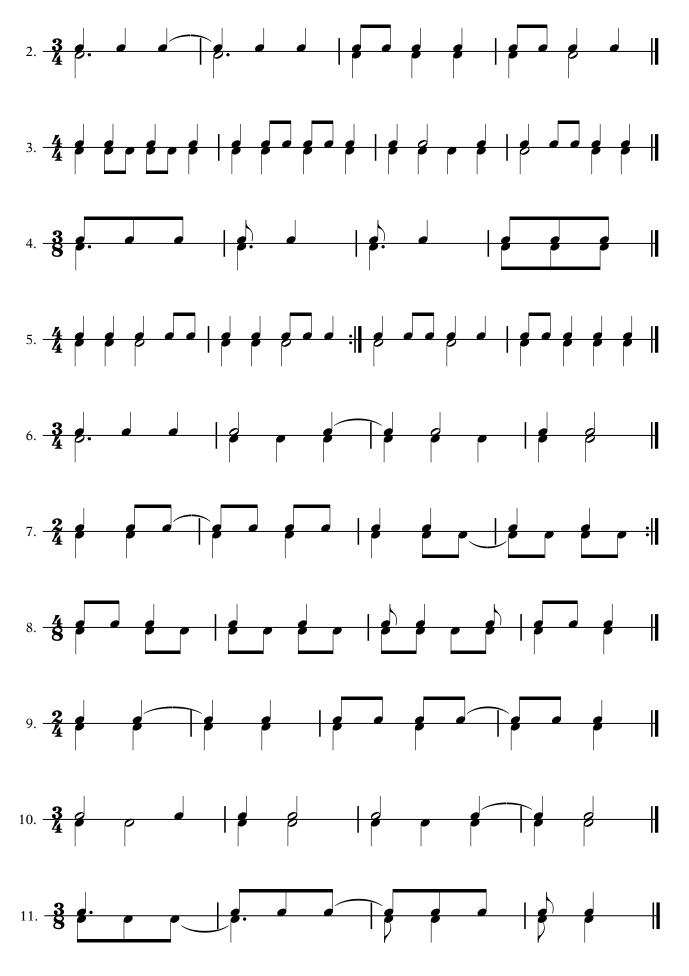
In writing eight-measure rhythmic exercises there are two possible approaches. Think of the first four measures as a question and the last four measures as an answer. The answer may be almost identical, as in example 2, or may be contrasting, as in example 5.

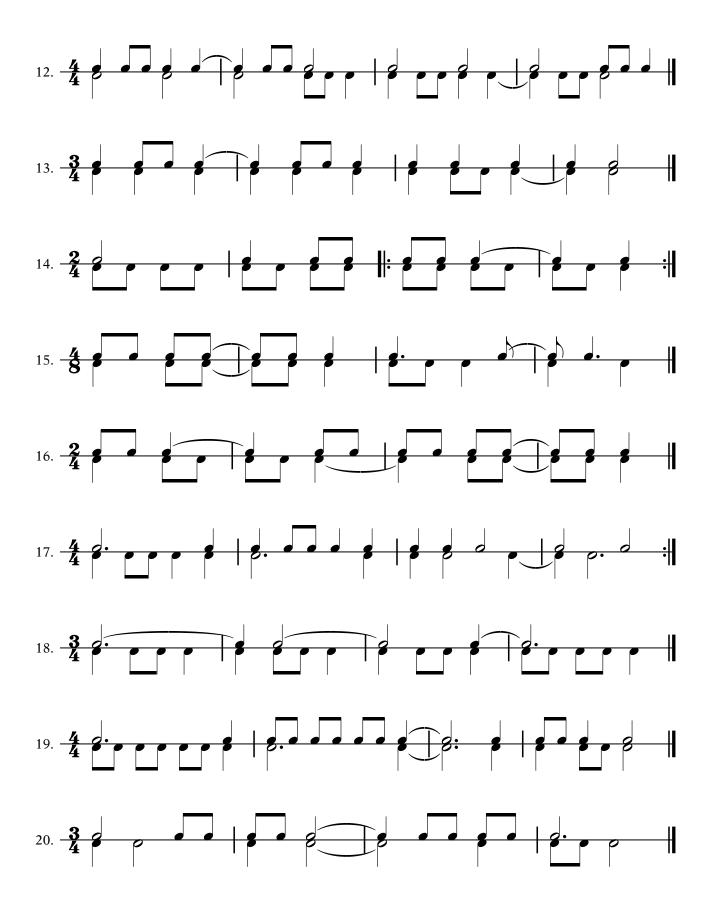




(5) COORDINATED-SKILL EXERCISES





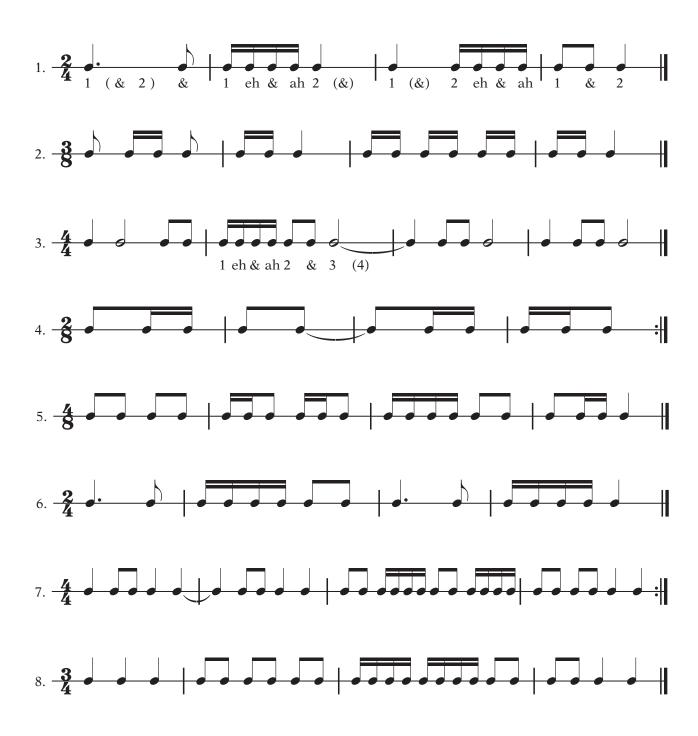


2c Rhythmic Exercises: Group 3

(1) SIMPLE METERS WITH BEAT SUBDIVISION; NEW MATERIAL— 为, ♬, AND ♪ >

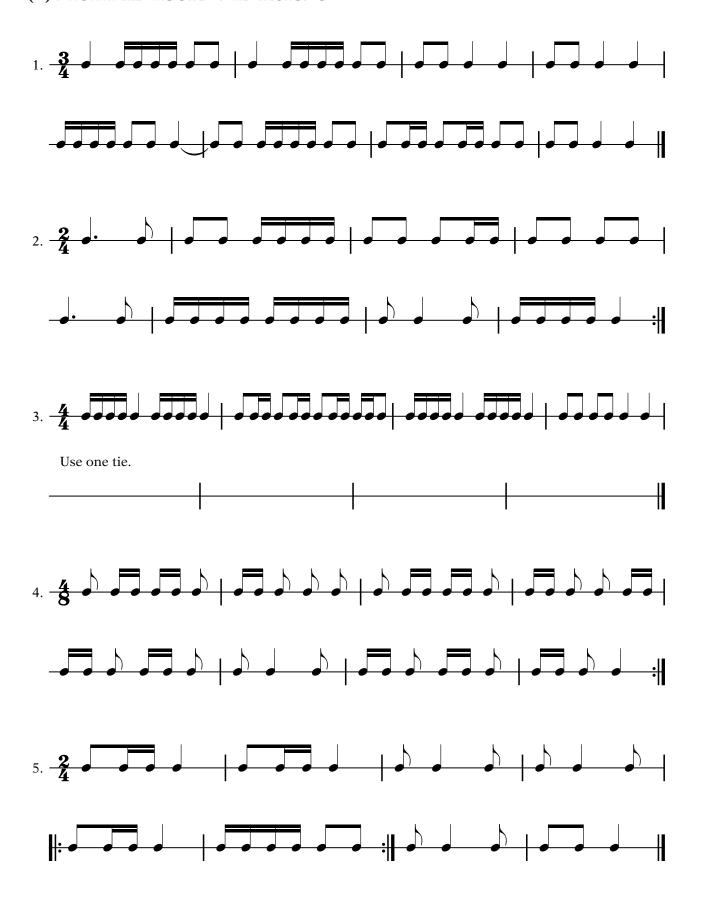
In simple meters, the subdivision of the beat requires additional words. In the division of the beat, we added the word and. We now add the syllable eh between the beat and the word and, then the syllable ah after the and. In the subdivision of the quarter note, the word and remains on the second half of the beat. For an accurate performance of the dotted quarter and eighth $(\cdot \cdot \cdot \cdot)$, count the division of the beat, tapping the note on the appropriate word $\cdot \cdot \cdot$ in simple meters 2, 3, 4.

1 (& 2) &





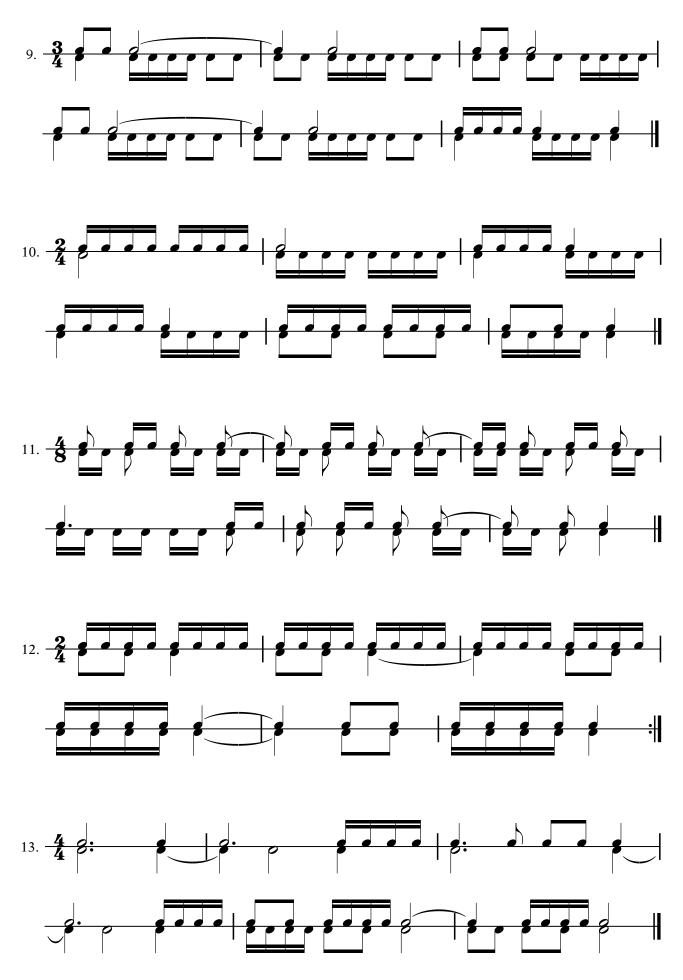
(2) EIGHT-MEASURE EXERCISES



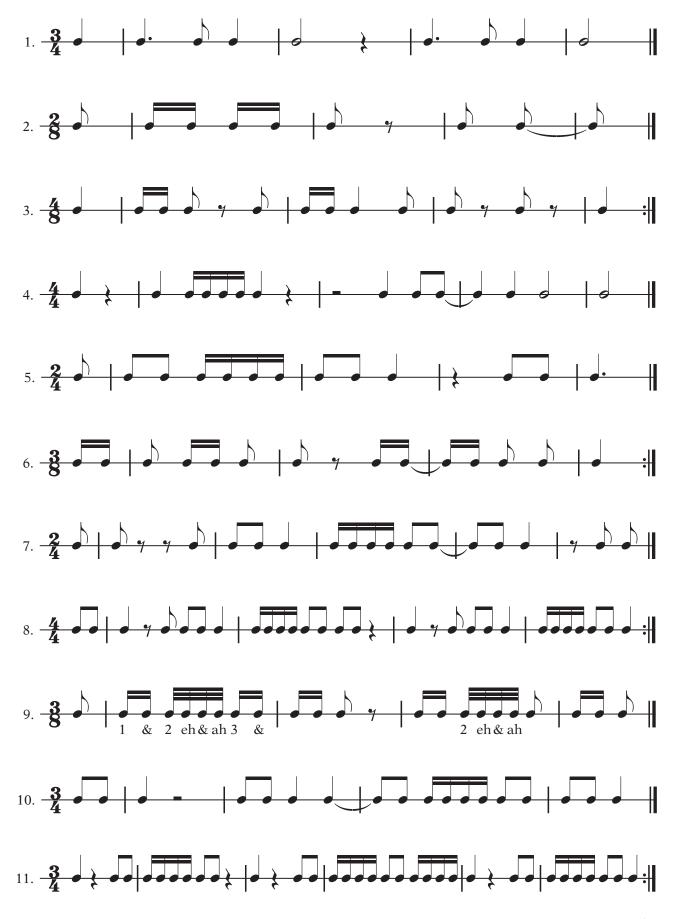
6. 4 9. 2 10. 3

(3) COORDINATED-SKILL EXERCISES





(4) NEW MATERIAL—RESTS AND ANACRUSES





(5) EIGHT-MEASURE EXERCISES





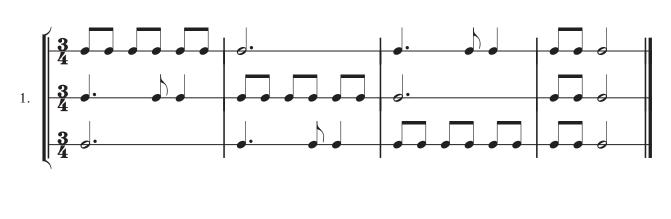
(6) COORDINATED-SKILL EXERCISES

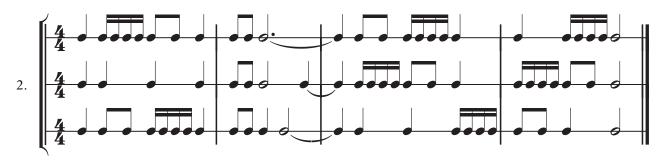


(7) THREE-PART RHYTHMIC EXERCISES

These exercises are for group participation, with at least one person on each line. Divide the parts among the performers, establish a beat, and begin. Perform each exercise a second and third time, with the performers tapping a different part each time.

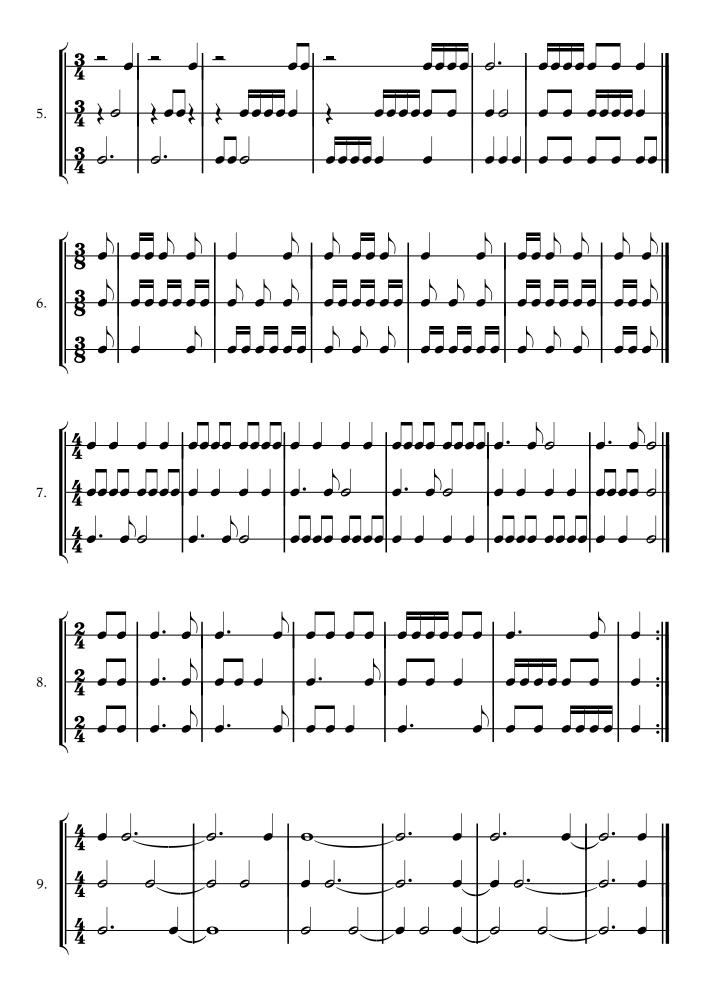
You can use these exercises on your own to further develop your skill of reading multiple musical lines. Practice lines 1 and 2, then lines 2 and 3, and then lines 1 and 3.

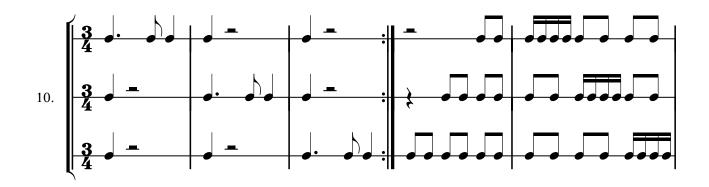


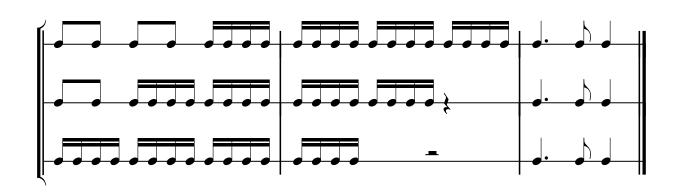


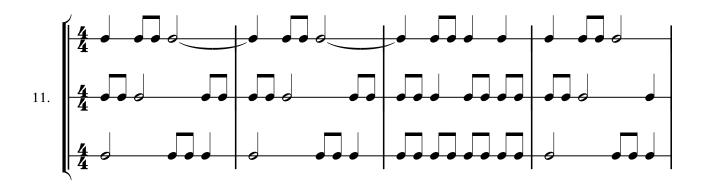


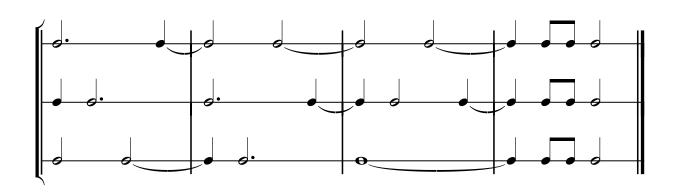












2d Melodic Exercises: Group 1

The following suggestions will help you develop good practice habits in these singing exercises.

- 1. Each singing example should first be clapped as a rhythmic exercise.
- 2. It should then be sung, using the letter names of the notes (and singing it an octave higher or lower if it is uncomfortable for your range as written).
- 3. It should then be sung again, using the *number system*, in which the numbers 1-2-3-4-5-6-7 are assigned to the notes of the scale in any key (3a). For example: in the key of C, C is 1, D is 2, E is 3, etc; in the key of F, F is 1, G is 2, A is 3, etc.
- 4. Some suggestions about singing:
 - Sit up straight or, better yet, stand while singing.
 - Look straight forward with relaxed jaw and, if reading from music, hold music in front of you or place on a stand at eye level.
 - Sing at a moderately loud volume so that you can clearly distinguish pitches. At any extreme range, high or low, sing softer.

(1) SIMPLE METERS WITH NO BEAT DIVISION



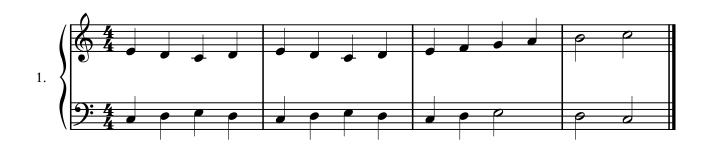




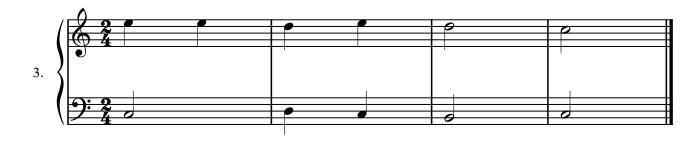




(2) TWO-PART MELODIC EXERCISES







(3) COORDINATED MELODIC-RHYTHMIC EXERCISES

Similar to the coordinated rhythmic exercises, these exercises combine two musical activities—this time, singing and clapping. Learn each line separately, then combine the two skills. If possible, sing the melodic line with pitch names or numbers, but if you find the combination of singing and clapping too difficult, sing the melodic line on a neutral syllable. *Practice slowly*.











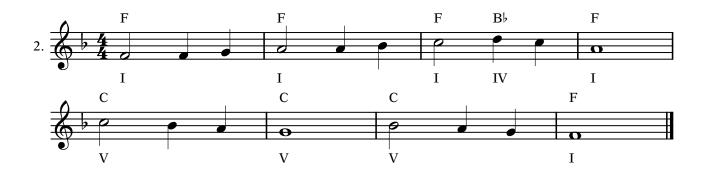


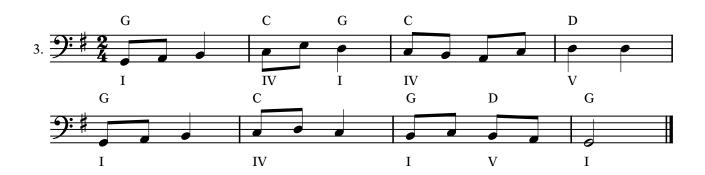
2e Melodic Exercises: Group 2

(1) SIMPLE METERS WITH BEAT DIVISION



Periodically, chord names and roman numerals will appear above and below a given melody. These allow a musician to add the correct chord (Units 6 and 9) accompaniment to a given melody. The letters placed above the music, a common practice in commercial music, indicate the chord to be used for that measure or beat. Upper-case letters are major triads (6a1). The roman numerals placed below the music, more common in the academic study of music, indicate a chord based on the diatonic scale. The following melody is in F Major. The F Major scale is numbered one through seven, one being F, two, G, three, A, and so forth. In this example, I is an F chord, IV is a Bb chord, and V is a C chord.







(2) TWO-PART MELODIC EXERCISE

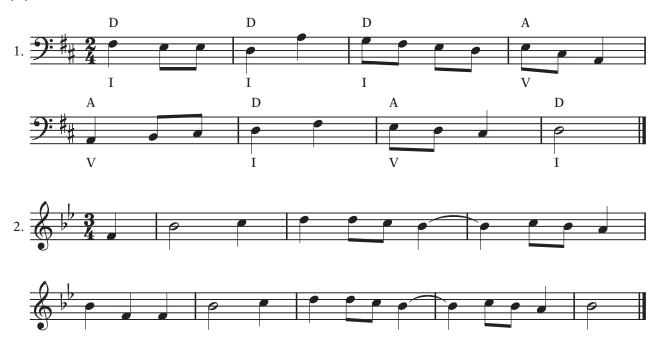


(3) COORDINATED MELODIC-RHYTHMIC EXERCISES





(4) EIGHT-MEASURE EXERCISES



Periodically, measures will be left blank. Compose melodies to complete the exercises.

Rhythm is equal in importance to the notes chosen for the melodic line. Before you begin, review the few simple rules for rhythms outlined on page 34.

All the following principles and rules of melodic writing are very general and many exceptions may be found with a continued study of music. For the beginner, the understanding of these basic principles and rules will be an introduction to the interesting mysteries of composing. More information on this subject, including harmonization, can be found in Units 8 and 9.

Basic Principles

Most music is written in an orderly fashion and will have certain patterns of construction. These patterns are called musical *form*. The smallest form is called a *phrase*.

Keeping in mind that there are many exceptions to these principles, phrases are usually four measures long. Two phrases combine to form a *period*.

The first phrase of a period is called the *antecedent* phrase, the second the *consequent* phrase.

Similar to the rules outlined for rhythms on page 34, the two phrases may take two basic forms—a *parallel* period, where the first and second phrases are nearly identical, and a *contrasting* period, where the first and second phrases are dissimilar. Example 2 is parallel in construction and example 6 is contrasting in construction.

Melodic lines may move by scale step (conjunct motion) or outline triads (6a) and wide interval leaps (disjunct motion).

Melodic lines have an overall "architecture." Two phrases may remain rather static, the first phrase ascend and the second descend, the first descend and the second ascend, or any combination of the above.

Basic Rules

- 1. The first phrase will usually end on a note other than the tonic (3a), the second almost always on the tonic.
- 2. Limit the number of rhythmic patterns.
- 3. Make the melody "singable." This is rather an abstract idea, but a good rule to follow. Sing your melody and if it feels comfortable it is likely to be correct.
- 4. Constrain the *tessitura*, that is, the overall range of notes from the lowest to the highest, to no more than an octave and a third.





(5) COORDINATED MELODIC-RHYTHMIC EXERCISES









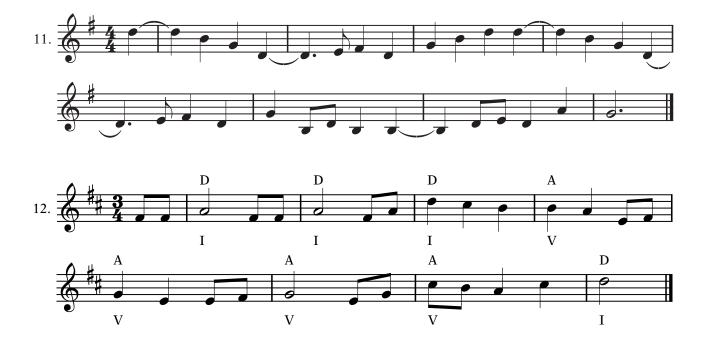


2f Melodic Exercises: Group 3

(1) SIMPLE METERS WITH BEAT DIVISION AND SUBDIVISION

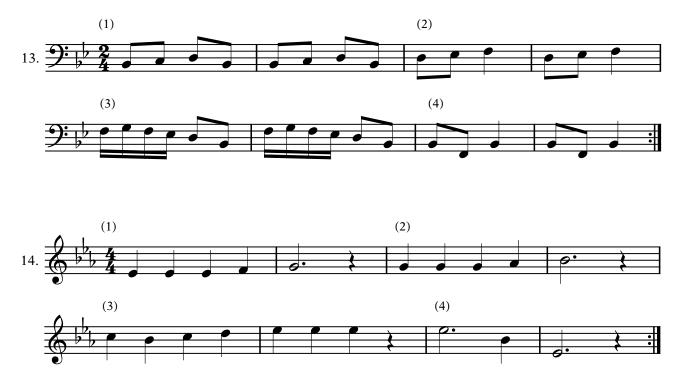






Round Form

A round requires the performers to be divided into three or four equal groups. Each group will perform the complete work. The first group begins at the opening phrase (1), the second, starting at the beginning, enters when the first group reaches the second phrase (2), and so on. Rounds may be repeated as many times as you wish.



(2) TWO-PART MELODIC EXERCISES



(3) COORDINATED MELODIC-RHYTHMIC EXERCISES





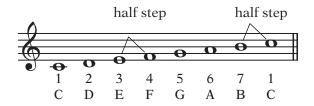


UNIT 3

Scales, Keys, and Modes

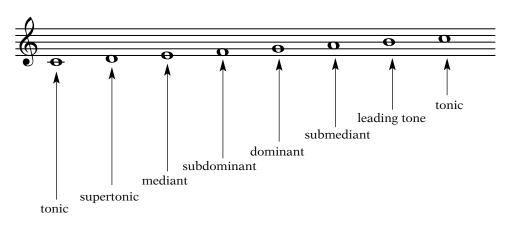
3a Scales

A **scale** (from Italian *scala*, ladder) is an ordered series of pitches, going either up or down. There are many forms of scales, but the two most commonly used in Western music since the seventeenth century are the forms called *major* and *minor*. The major scale is represented by the white keys of the piano that span the octave C to C. The ascending major-scale arrangement of whole steps and half steps is as follows: a whole step between the first and second and the second and third pitches, a half step between the third and fourth, a whole step between the fourth and fifth, the fifth and sixth, and the sixth and seventh pitches, then a half step between the seventh and eighth pitches. The following major scale is represented C to C.



Each scale step has a name that indicates its relationship to the *tonic*, the name of the beginning note of the scale and main tone of the key.

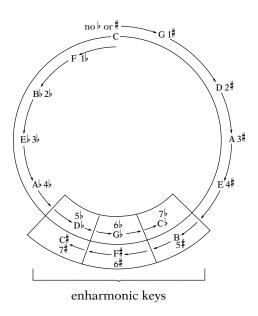
tonic—beginning pitch
supertonic—the pitch above the tonic
mediant—the pitch halfway between the tonic and the dominant
subdominant—the dominant five pitches below the tonic or the pitch below the dominant
dominant—the dominant five pitches above the tonic
submediant—the pitch halfway between the tonic and the subdominant
leading tone—half step below the tonic



3b Circle of Fifths—Major Keys

A scale that follows the half-step and whole-step pattern described is called a major *diatonic* scale. With this half-step and whole-step pattern kept consistent, the major scale can be transposed (moved) to all the remaining eleven half steps within the octave. For each transposition, sharps or flats must be added to maintain the correct diatonic pattern.

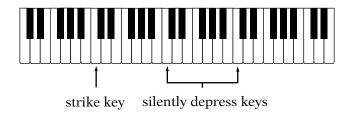
The major scales and their appropriate sharps or flats can be arranged in a sequence called the **circle of fifths**, shown in the diagram below. With C at the top, the fifths lead clockwise to G, then to D, and so on around the circle. The key signature indicates whether the name of the new key will be sharped or flatted, e.g., the descending fifth below F is B. But the key signature, two flats, dictates that B will be flatted. Therefore the name of the new key is Bb. Note that the scales requiring sharps are clockwise *ascending* fifths, and that the scales requiring flats are counterclockwise *descending* fifths. Note also that at the bottom of the circle, the scales with sharps and flats must cross. These three sets of scales, each with two key signatures, are called *enharmonic* major scales. (See 11.)



3c Overtones

The use of the fifth in the circle of fifths is not an arbitrary choice. Every pitch is a composite of sounds, consisting of the main sound (the *fundamental*) plus many more. Most of these additional sounds, called **overtones**, **harmonics**, or **partials**, are not distinctly heard; however, the first overtone, which is an octave above the fundamental, and the second overtone, which is a fifth plus an octave over the fundamental, are clearly audible. This fifth is a very dominant sound for every pitch of the scale.

To hear these two overtones, *silently* depress the white keys of the piano from C to C with your right hand. With your left hand, strike the C one octave lower a hard, short blow. You will hear the tones C and G distinctly. Then silently depress the white keys from G to G, strike the G one octave lower, and you will hear G and D. You can continue this procedure throughout the circle of fifths.



3d Key Signatures

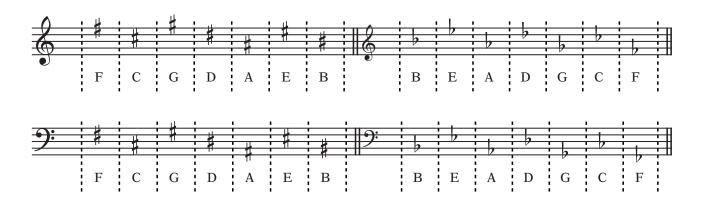
In music based on a major or minor scale, the piece often centers on a specific tone, the first note of the scale. This tone is called the *tonic* (or keynote or key center). Playing a G major scale or a piece using this scale means playing in the *key* of G major. The sharps or flats used in a particular key are grouped together at the beginning of the staff in an arrangement called the *key signature*. Any sharp or flat shown in the key signature means that the corresponding note is played sharped or flatted throughout a composition—although the sharp or flat may be canceled with a natural sign (\mathfrak{h}) for a single measure (see 1j).

The sequence of sharps or flats in a *key signature* follows a specific order. The first sharp in all sharp key signatures, major or minor, is *always* F, the second sharp is *always* C, the third G, and so on. The first flat in all flat key signatures is *always* B, the second flat is *always* E, the third A, and so on. Therefore, the circle of fifths, shown above, indicates that the key of G has $1 \,\sharp$ and that sharp must be F. The key of F is shown to have $1 \,\flat$ and that flat must be B.

Below you will find not only the correct key signature notation but the specific order that the sharps and flats must follow.

Please note that the sharp and flat key signatures also follow the circle of fifths. The sharps begin at F (11 o'clock) and move clockwise to B (5 o'clock). The flats simply reverse the order and begin with B (5 o'clock) and move counterclockwise to F (11 o'clock).

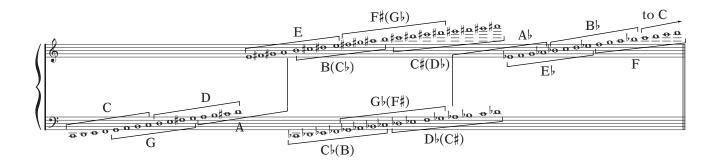
In notating key signatures, the sharps or flats are placed on the staff in a certain pattern that is never altered: In the treble clef, the first sharp, F, is always placed on the top line; in the bass clef, on the fourth line up. In the treble clef, the first flat, B, is always placed on the middle line; in the bass clef, on the second line up. The diagram below shows the placement of the remaining sharps and flats in the pattern that must always be followed. In notation, allow sufficient space so that none of the sharps or flats is directly above or below another.



3e Tetrachords

Another way to construct scales is by the use of the tetrachord, a concept that dates back to ancient Greek music. The **tetrachord** is a four-note pattern of whole steps and half steps that, when combined with another tetrachord, forms a one-octave scale. The tetrachord for the major scale is a pattern of two whole steps followed by a half step. Starting with C, an ascending series of this pattern, with each tetrachord separated by a whole step, will result in the twelve major scales, the last leading back to C. Any two neighboring tetrachords in this pattern will spell a major scale, as in the diagram below. The minor scales and the modal scales (see 30) can also be learned by memorizing their individual tetrachord patterns. Except for the Lydian mode, each tetrachord pattern will be separated by a whole step.

Major-Scale Tetrachord Series



Refer to 30 for more information on the modes.

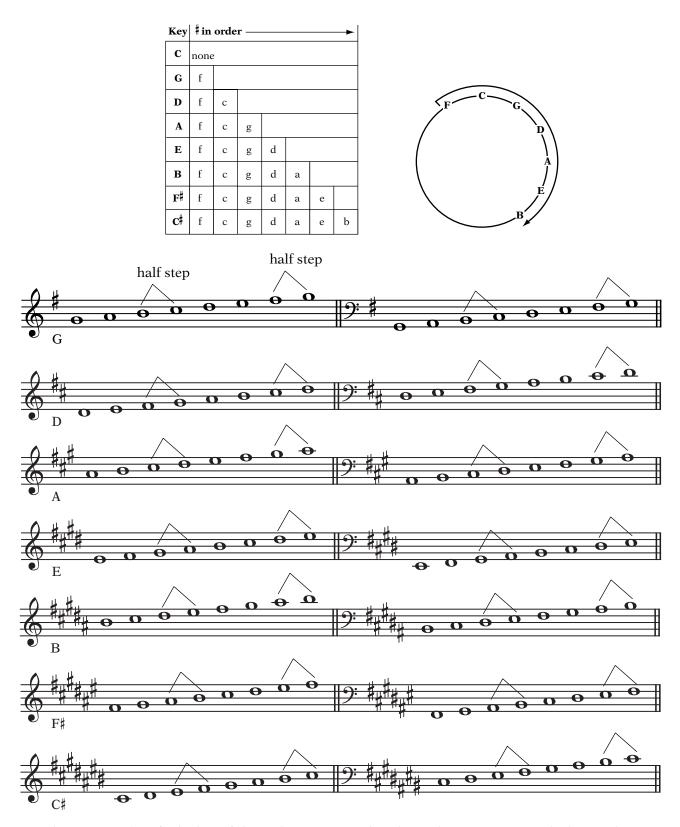
Major scale $1\ 2\ 3^4\ /\ 5\ 6\ 7^8$ Natural (unaltered) minor scale $1\ 2^3\ 4\ /\ 5^6\ 7\ 8$

Dorian mode 1 2 3 4 / 5 6 7 8 Phrygian mode 1 2 3 4 / 5 6 7 8

Lydian mode 1 2 3 4/5 6 7⁸ Mixolydian mode 1 2 3⁴ / 5 6⁷ 8

3f Major Scales with Sharps

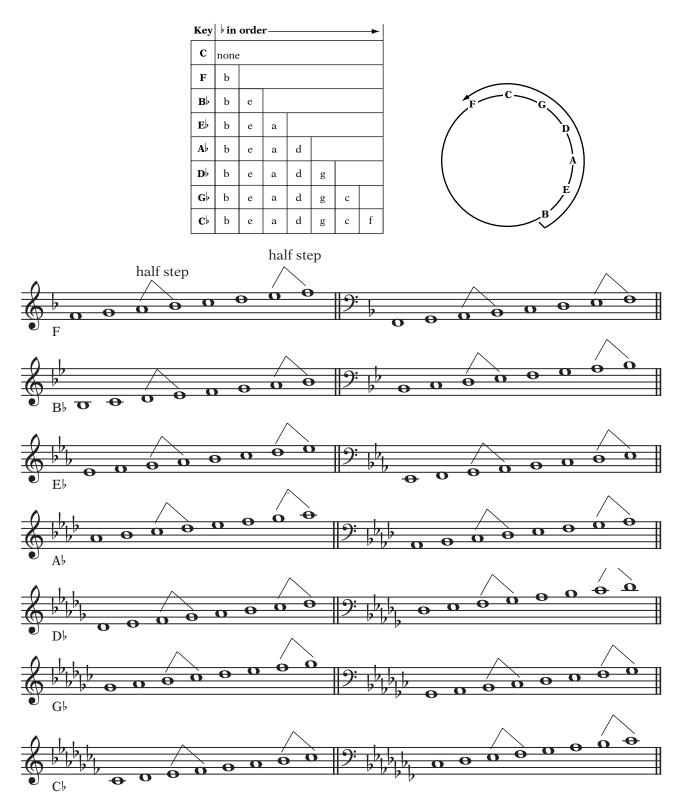
Following the circle clockwise from 11 o'clock (F) to 5 o'clock (B) will also give you the order of sharps found in sharp key signatures.



Another way to identify the key of the scale is to remember that in key signatures with sharps, the note one diatonic half step above the last sharp in the key signature gives the name of the key.

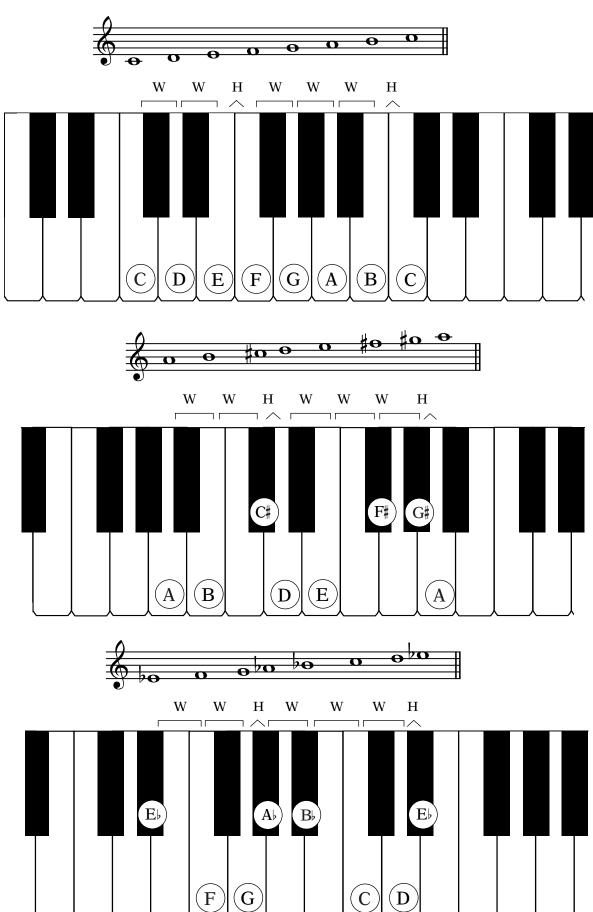
3g Major Scales with Flats

Following the circle counterclockwise from 5 o'clock (B) to 11 o'clock (F) will also give you the order of flats found in flat key signatures.



Another way to identify the key of the scale is to remember that in key signatures with flats, the name of the next-to-last flat gives the name of the key, except in the case of F, which has only one flat.

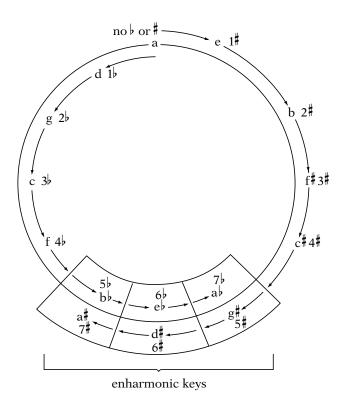
Below are shown three major scales, C, A, and E^{\flat} , and how these scales appear on the piano keyboard.



3h Circle of Fifths—Minor Keys

The rules that apply to the major circle also apply to the circle in minor, as shown in the diagram below. The *natural* minor scale is represented by the white keys of the piano that span the octave A to A. Half steps appear between the second and third pitches, and between the fifth and sixth. With this whole-step and half-step pattern kept consistent by adding sharps or flats, the minor scale can be transposed to all the remaining eleven half steps within the octave. The scales requiring sharps are clockwise *ascending* fifths, and the scales requiring flats are counterclockwise *descending* fifths.

The natural minor scale can be altered by adding accidentals, to produce two other forms—the *har-monic* and the *melodic* minor (see 3k).

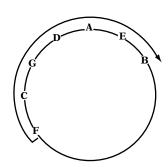


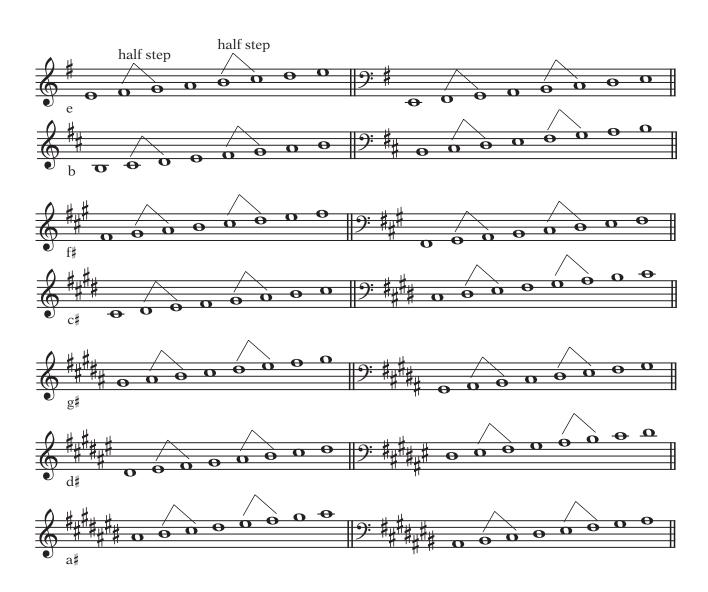
^{*}The use of lower-case letters in this diagram to refer to minor keys is a well-known convention, and one this book will use from now on. Thus, capital G in diagrams means G major and lower-case g means g minor.

3i Minor Scales with Sharps

Following the circle clockwise from 8 o'clock (F) to 2 o'clock (B) will also give you the order of sharps found in sharp key signatures.

Key	♯ in order———										
а	none										
e	f										
b	f	С									
f#	f	С	g								
c#	f	с	g	d							
g#	f	С	g	d	a						
d#	f	С	g	d	a	e					
a#	f	с	g	d	a	e	b				



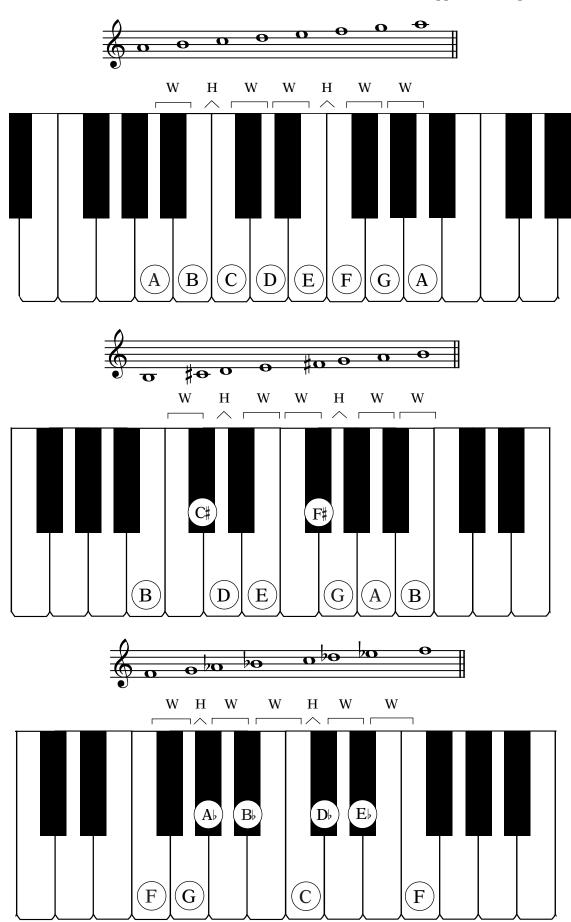


3j Minor Scales with Flats

Following the circle counterclockwise from 2 o'clock (B) to 8 o'clock (f) will also give you the order of flats found in flat key signatures.

1	Key	in orde	er				-	
	a n	ione						
	d	b						
	g	b e						D A E
	c	b e	a					G B
	f	b e	a	d				
	b♭	b e	a	d	g			
	e♭	b e	a	d	g	с		F
	a♭	b e	a	d	g	с	f	
half step) — Q		lf sto	ер	0	0		9: , o o o o o
g		, 0			0	0		9: 12 0 0 0 0 0
c o o	—	0 6		Ò	0	0		
f	Ò	0	<u> </u>	0	0	O		
bh Q e	ō	0		0	0	0		
eb eb	0	0	<u>^</u>	ò	0	_0		
ab ab	<u></u>	. 0	0	0	0	Θ		

Below are shown three minor scales, a, b, and f, and how these scales appear on the piano keyboard.



3k Natural, Harmonic, and Melodic Minor

The minor scale has three forms—the natural (unaltered) form, the harmonic form, and the melodic form. Each has its own unique characteristics. You should play and sing each form until you can recognize its distinct quality.

The **natural minor scale** is sometimes called the Aeolian, in reference to its origin as one of the church modes (see 3o).



natural minor

The **harmonic minor** scale raises the seventh pitch of the natural minor scale by one half step. This results in a skip of a step and a half between the sixth and seventh scale steps.



harmonic minor

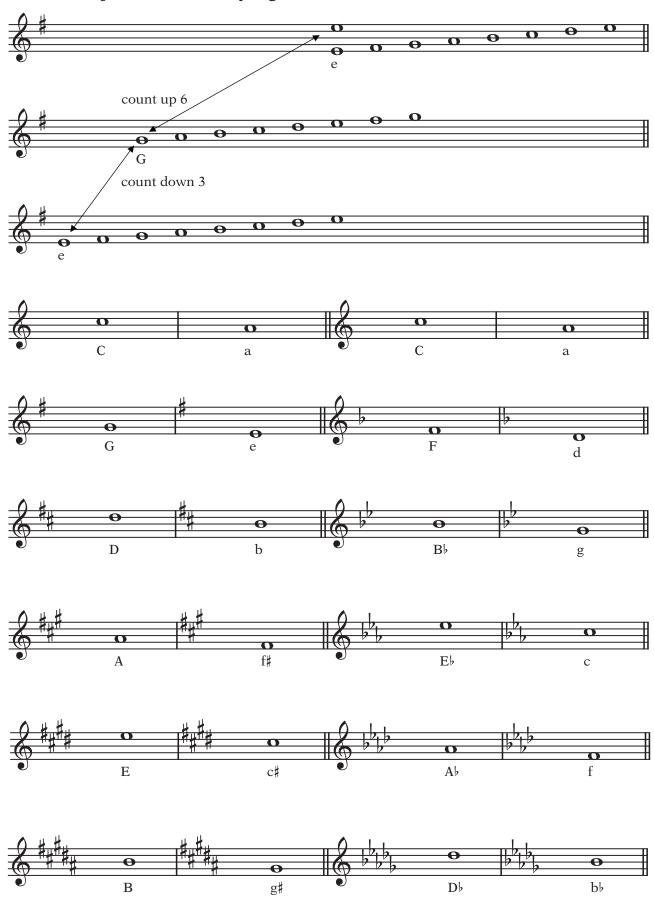
The **ascending melodic minor** scale raises by one half step the sixth and seventh pitches of the natural minor scale. Descending, the sixth and seventh pitches are returned to their original pitches. The **descending melodic minor** scale, therefore, returns to the natural minor form.

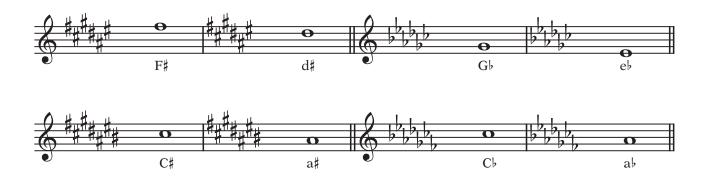


31 Relative Major and Minor

Major and minor keys with different names but with the same key signatures are called **relative**. To find the relative *minor* key of a major key, count down three degrees of the scale from the first note (the tonic) of the major scale, or count up six degrees of the scale from the tonic. To find the relative *major* key of a minor key, reverse the process: count down six degrees of the scale from the tonic, or count up three. In the following example, the key signature with one sharp applies to the keys of both G major and e minor.

Relative Major and Minor Key Signatures



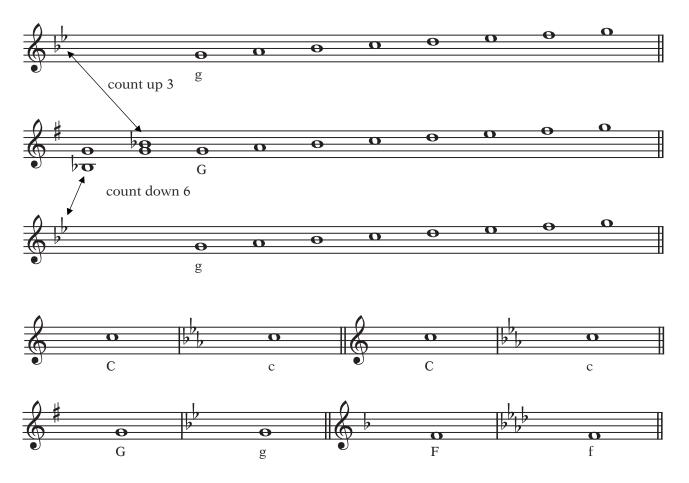


3m Parallel Major and Minor

Major and minor keys with different key signatures but with the same letter name and the same tonic are called **parallel**. The key signature of any parallel minor key is the same as that of its *relative* major. Find it by counting up three diatonic half steps, a minor third (or by counting down nine diatonic half steps). Counting up three, or down six, from G gives Bb, the relative major of g minor. Therefore two flats, the key signature of Bb, is also the key signature of g minor.

Another way to establish the parallel key signature is to move counterclockwise three places around the Circle of Fifths (3b); e.g., starting on G you move three spaces counterclockwise G-C-F-B to get the key signature of the parallel minor.

Parallel Major and Minor Key Signatures









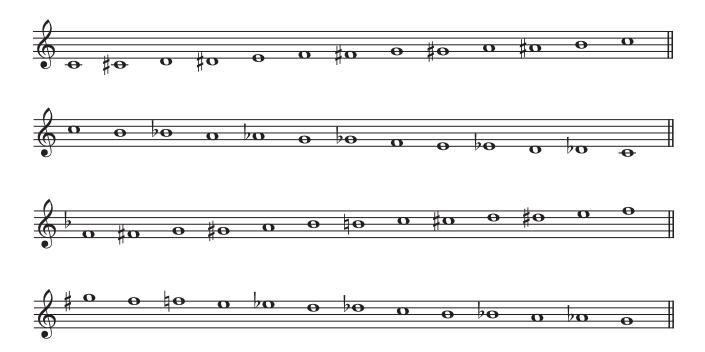




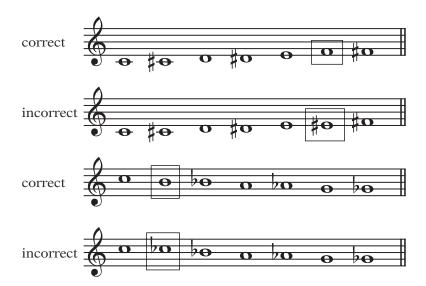


3n The Chromatic Scale

When any nondiatonic tones are introduced into a scale, they are called *chromatic* tones. The introduction of every chromatic tone results in the **chromatic scale**, all the twelve tones within an octave. In general, sharps are used to notate the ascending scale; flats notate the descending scale. However, sharps or flats found in the key signature should be accounted for. Below is the c ascending and descending chromatic scale, also the F ascending chromatic scale and the G descending chromatic scale.



The white-key half-step pairs (E–F and B–C) are always notated as natural notes.



30 The Church Modes

The **church modes** were the tonal basis of early music until roughly the end of the sixteenth century, the end of the Renaissance. The modes are octave segments of the C major scale, each placing the tonic on a different pitch in the scale (or white key on the piano). They appear on the staff as shown below. The major and minor scales replaced the modes and remained prominent until the late nineteenth century, when composers rediscovered the early church modes and also became interested in other scale forms. The Dorian, Phrygian, Lydian, and Mixolydian modes remain in use today, the Dorian and Mixolydian being especially popular with composers of jazz and commercial music. An easy way to construct the modes is to think of them as either a major or minor scale with alterations, or as a major scale beginning and ending on a pitch other than the tonic.

The Church Modes

Ionian (major)

Dorian—a minor scale with a raised 6th or a major scale played from the supertonic to the supertonic

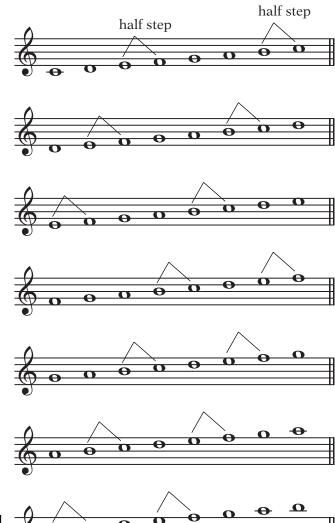
Phrygian—a minor scale with a lowered 2nd or a major scale played from the mediant to the mediant

Lydian—a major scale with a raised 4th or a major scale played from the subdominant to the subdominant

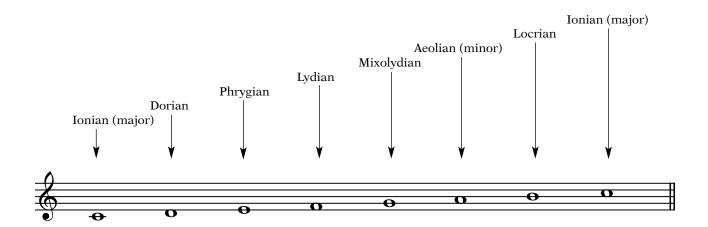
Mixolydian—a major scale with a lowered 7th or a major scale played from the dominant to the dominant

Aeolian (minor)

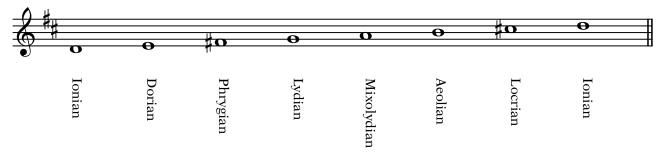
Locrian (very rare)—a minor scale with a lowered 2nd and 5th or a major scale played from the leading tone to the leading tone



Each mode may be transposed to any of the remaining half steps within the octave, and a circle of fifths can be established for each by following the same rules that apply to the major and minor scales. For example, the Dorian mode with no sharps or flats is called D Dorian. A fifth ascending is A Dorian, with the key signature of one sharp; a fifth descending is G Dorian, with the key signature of one flat. The modes may also be transposed by understanding and memorizing the tetrachord pattern for each (see 3e).



Transposed to D Major



To give an idea of the "sound" of some of the different modes, the following is the well-known Christmas song "Silent Night" in major, natural minor, harmonic minor, melodic minor, Dorian, and Mixolydian.









3p Other Scale Forms

Many other forms of scales can be found in music, including Near Eastern and Asian scales that do not use the half-step and whole-step patterns, scales unique to an ethnic or regional group, and original or "created" scales that are created by the composer for a specific effect.

(1) THE PENTATONIC SCALE

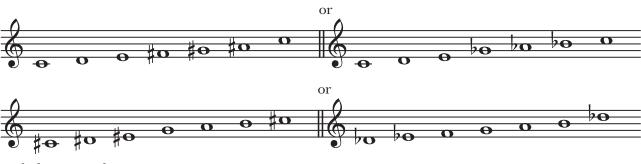
The pentatonic scale is a scale with only five different pitches (in contrast to the seven pitches of the major and minor scales). Although there are many ways to construct a pentatonic scale, it can be easily played on the piano by using the black keys only. This scale occurred in China as early as 2000 B.C.



(2) THE WHOLE-TONE SCALE

pentatonic scale

The whole-tone scale, a six-tone scale beginning on C, can be transposed only once, to C‡. All other transpositions duplicate one of the two scales. This scale was exploited by the French Impressionist composers of the late nineteenth century because it lacks a feeling of tonic; it thus creates a vagueness of tonality or key.



whole-tone scale

(3) ORIGINAL SCALES

A composer may create an original scale for a particular composition. The following is but one of many possible "synthetic" scales.

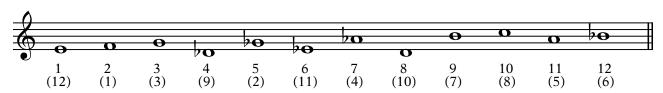


3g Twelve-Tone Rows

In the early twentieth century, the composer Arnold Schoenberg (1874–1951) devised a pitch system to replace the traditional melodic, tonal, and chordal relationships of the music of the eighteenth and nineteenth centuries. A composition using this system is based on an arrangement of all twelve chromatic tones into a series, or **twelve-tone row**. The series usually remains unaltered throughout a work except for the modifications listed below. The composing of a series and its creative use is an advanced and complex skill, but the basic rules can be understood by the beginning theory student:

- 1. The row can be used in four forms:
 - O—in the original form
 - I—in inversion (upside down, with each interval inverted)
 - R—in retrograde (backward)
 - RI—in retrograde inversion (backward and upside down)
- 2. These four forms can be transposed to any step of the chromatic scale, allowing a possible total of 48 versions of the original row.
- 3. From this basic material, melodic progressions and chordal combinations can be formed. The twelve tones are usually presented in full, arranged horizontally or vertically, before the series, in any of its forms, is repeated.
- 4. Any range, clef, skip, repetition of tones, simultaneous use of tones, octave position of tones, or enharmonic spelling of tones is allowed. *Accidentals apply only to the note following*.
- 5. Once the row is started, the preestablished note sequence is followed through all the twelve notes of the row. You do not randomly pick notes from the row.





original (O)

the chromatic scale reordered into a twelve-tone row







retrograde inversion (RI)

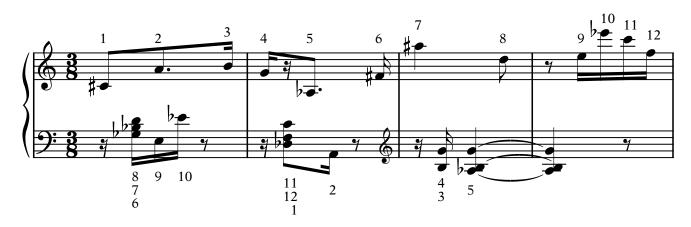
Here is part of a melody using the inverted form of the row.



This is the row Arnold Schoenberg (1874–1951) used in the following example.



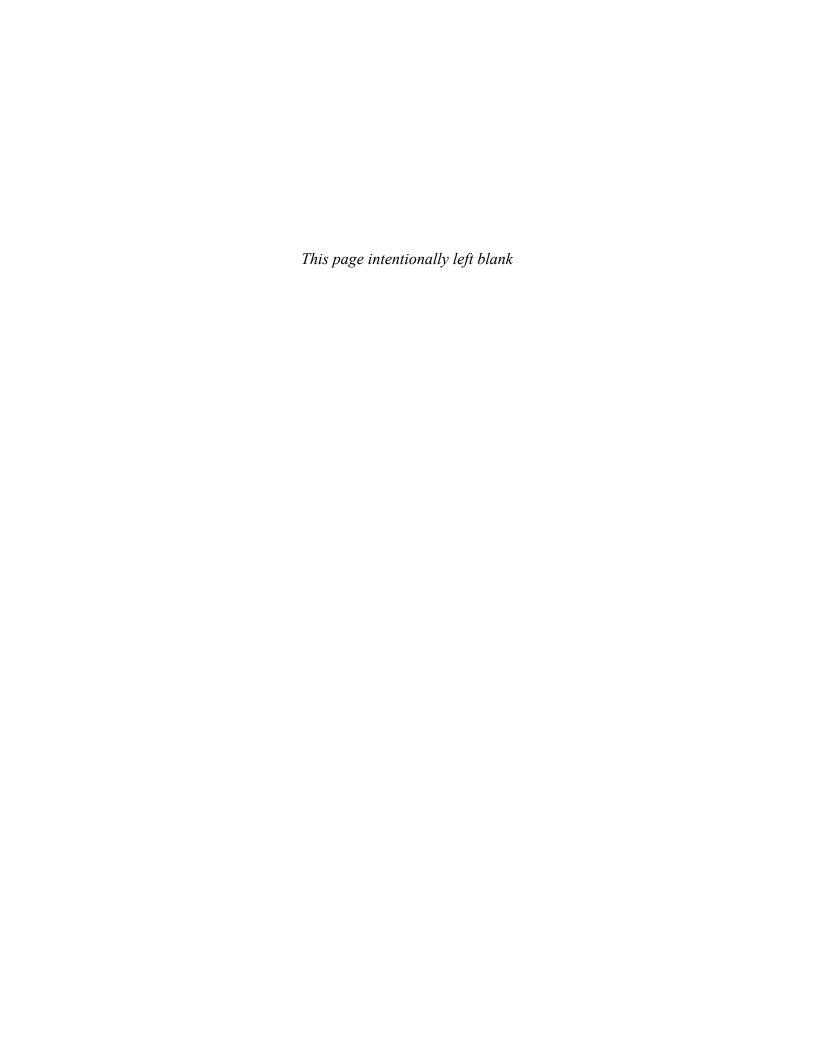
SCHOENBERG, WALTZ, OP. 23, NO. 5



© by Wilhelm Hansen As, Denmark. Used by permission.

A "Silent Night" tone row version based on the Schoenberg row found on page 105. Compare this with "Silent Night" examples found on pages 101 and 102.





3d 3f 3g

Name the major key and write the tonic on the staff for the following key signatures. If possible without ledger lines, write the tonic in two different octaves.

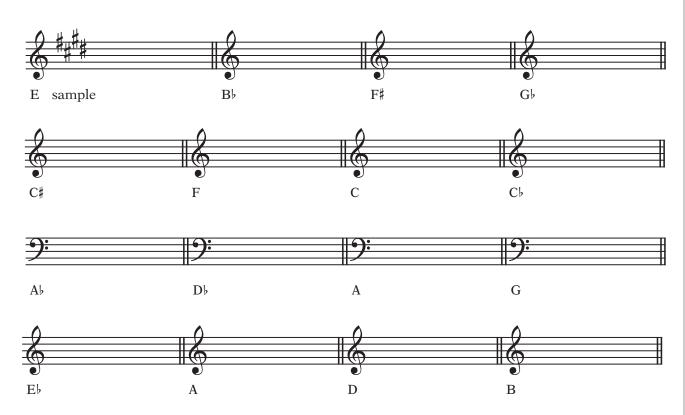




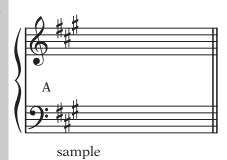


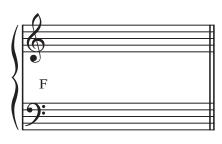


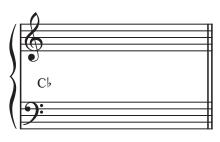
Write the key signatures for the following major keys.



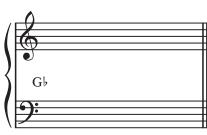
Write the key signatures for the following major keys.

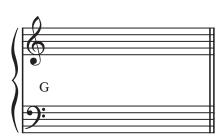


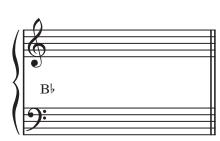


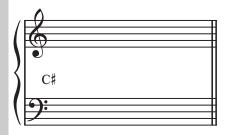


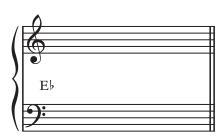
.

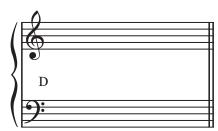


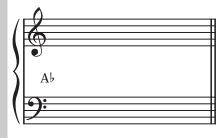


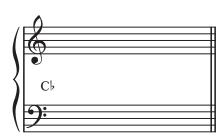


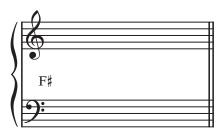


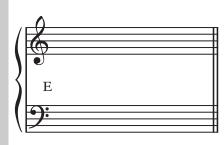


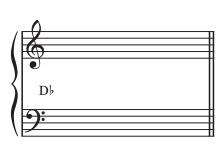


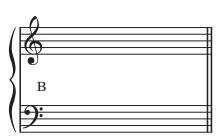








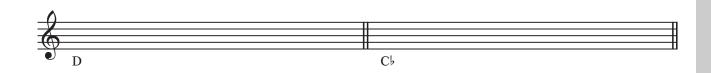




Write the key signatures and the ascending scales for the following major keys.



















Identify the key and then write in the key signature for the following *major key* examples.



^{*}Modal example. See pp. 99–100.

3i 3j

3d

3i

Name the minor key and write the tonic on the staff for the following key signatures. If possible without the ledger lines, write the tonic in two different octaves.



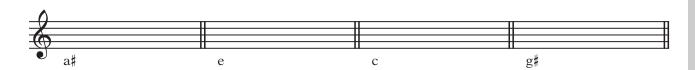






Write the key signatures for the following minor keys.









WORKSHEET 3-6



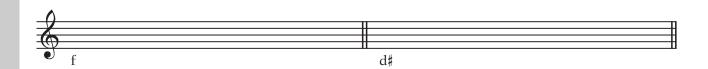
NAME _____

Write the key signatures and the ascending scales for the following minor keys. Use the natural form.

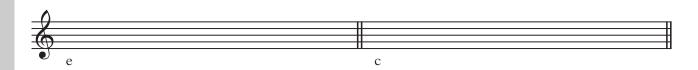




















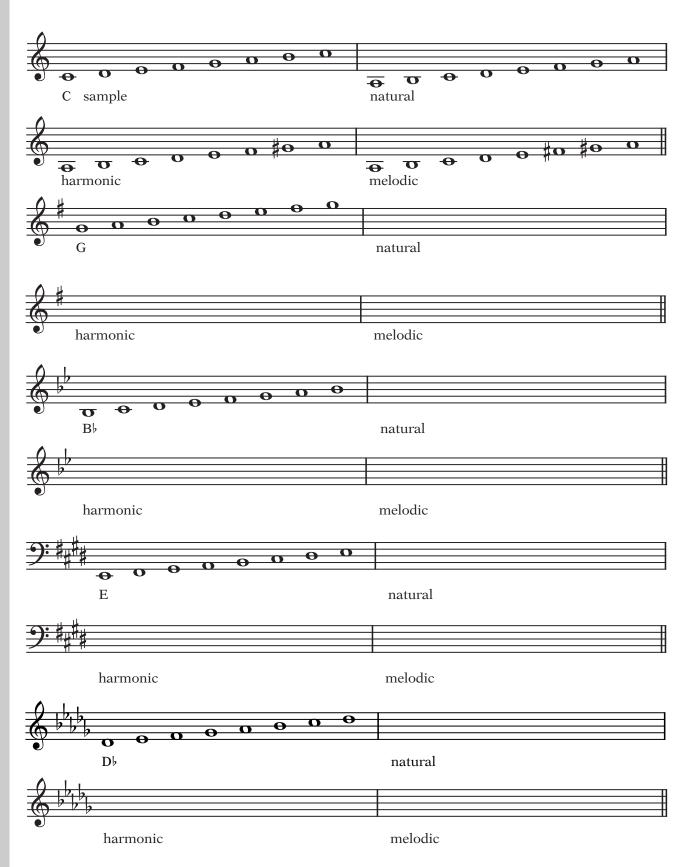
Identify the key, *plus the form*, for the following *minor key* examples. Also, write the correct key signature at the beginning of each example.



^{*}Modal example. See pp. 99–100

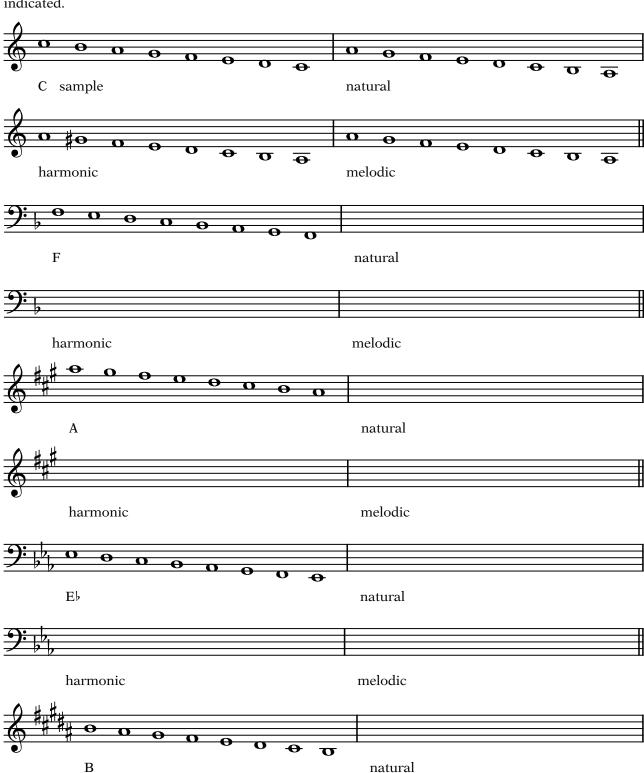
3i 3j 3k 3l

Write the ascending *relative* minor scales for the following ascending major scales in all forms indicated.



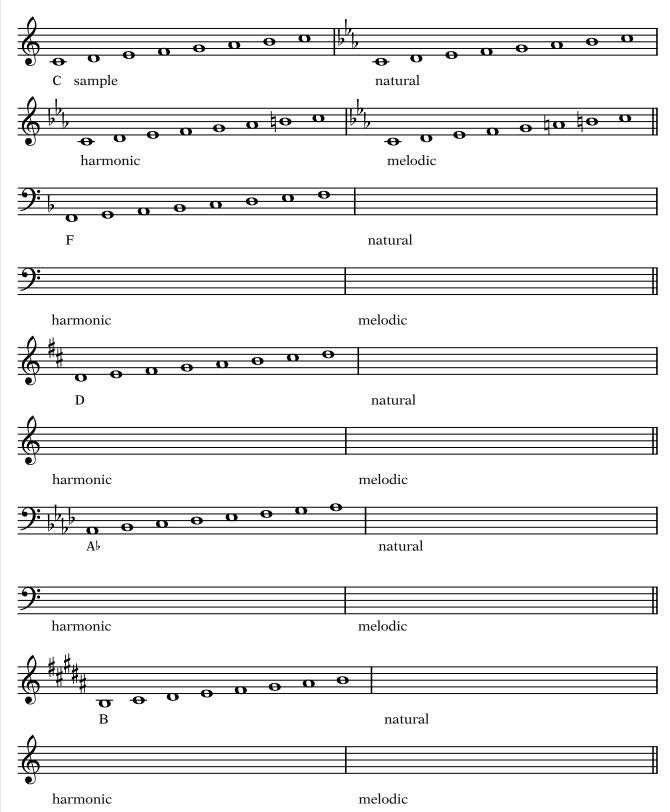


Write the descending *relative* minor scales for the following descending major scales in all forms indicated.



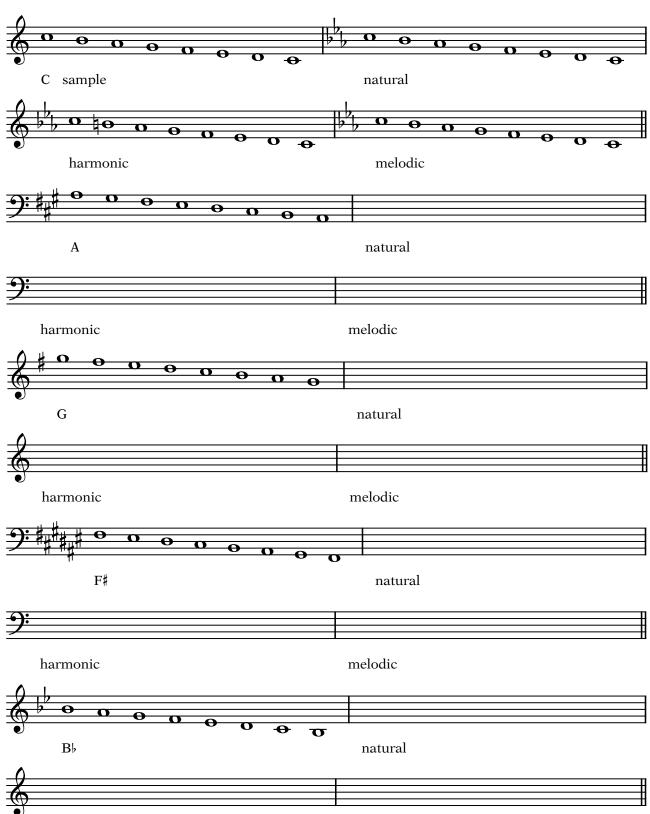
harmonic melodic

Using the proper key signatures, write the ascending *parallel* minor scales for the following major scales in all forms as indicated.



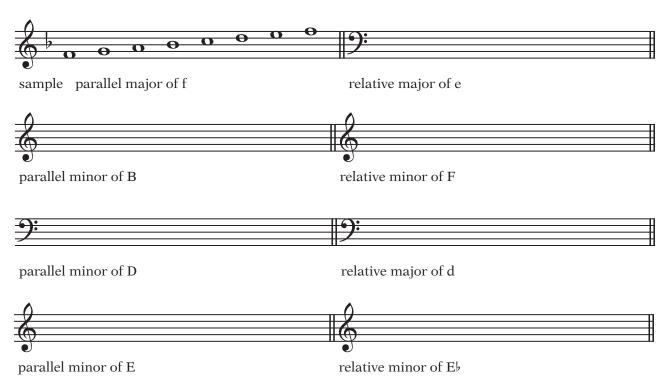
harmonic

Using the proper key signatures, write the descending *parallel* minor scales for the following major scales in all forms indicated.

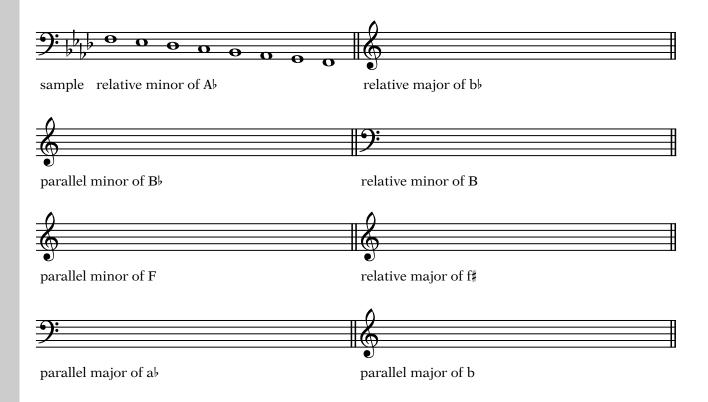


melodic

Write key signatures and ascending scales as indicated. For minor scales, use the harmonic form.

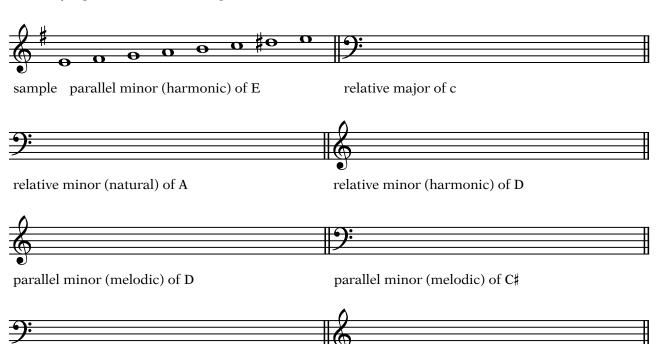


Write key signatures and *descending* scales as indicated. For minor scales, use the melodic form.



3k 3l 3m

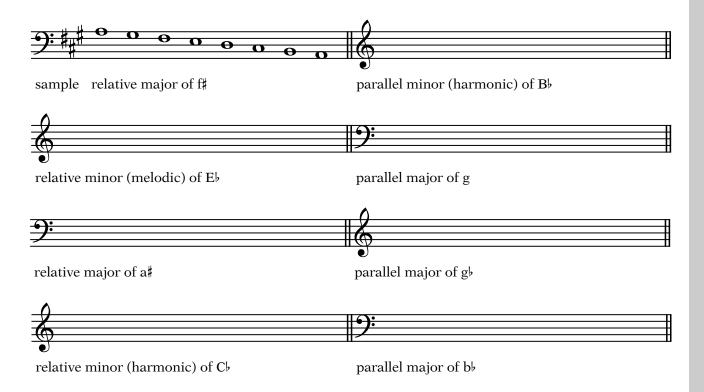
Write key signatures and ascending scales as indicated.



relative major of f

Write key signatures and descending scales as indicated.

parallel minor (natural) of A



Write key signatures and ascending scales as indicated.



sample G Major

b minor



d minor





parallel minor (melodic) of E

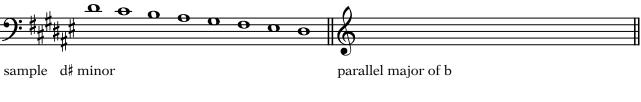
F Major



c minor

relative minor (natural) of Ab

Write key signatures and descending scales as indicated.





parallel minor (harmonic) of B

Cb Major



F# Major

a# minor



C Dorian

E Mixolydian

Write the scale indicated and then circle the scale degree indicated.



sample D Major-mediant

G Major—dominant



a natural minor—supertonic

B Major—subdominant



el harmonic minor—leading tone

F# Major—tonic



Bb Major—submediant

f# melodic minor—dominant



c natural minor—subdominant

Al Major-mediant



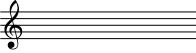
g harmonic minor—submediant

F Major—leading tone



c# melodic minor—supertonic

Db Major—tonic



E Major—mediant

f natural minor—subtonic



b harmonic minor—subdominant

El Major—leading tone



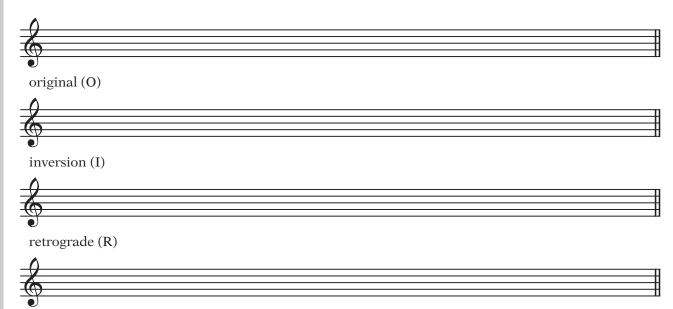
a# melodic minor—submediant

Gb Major—dominant



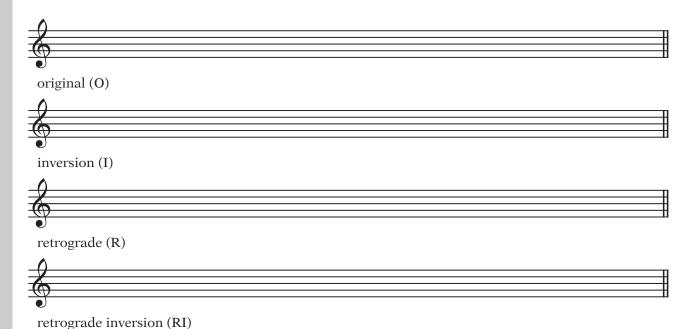
NAME _____

Write and number the original and the three remaining forms using the Schoenberg row found on page 105.



retrograde inversion (RI)

Arrange and number the twelve chromatic tones in your own twelve-tone row, then construct its remaining three forms.



NAME _____

1. Name the major key and write the tonic on the staff for the following key signatures.





2. Write the key signatures for the following major keys.





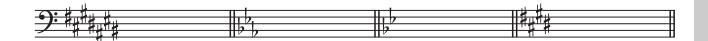
3. Write the key signature and the ascending scale for the following major keys.





4. Name the minor key and write the tonic on the staff for the following key signatures.





5. Write the key signatures for the following minor keys.





3i 3j 3k

6. Write the key signature and the *ascending* scale for the following minor keys. Use the melodic form.





3k 31 3m

Write key signatures and *descending* scales as indicated. Use the harmonic form.



parallel minor of C#

relative minor of Db

Write key signatures and ascending scales as indicated. Use the melodic form.



Write key signatures and ascending scales as indicated.



E Dorian

F Mixolydian

10. Write an ascending and descending chromatic scale from A to A. Note the key signature.

3n

30

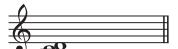
UNIT 4

Intervals

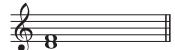
4a Constructing Intervals

An **interval** is the distance between two tones. All intervals have two components—*number size* and *quality*. The number size of an interval is calculated by counting the total number of letter names between and including the two tones, either up or down, as in the examples below. **Be sure to count the starting note as "one" when calculating an interval.**

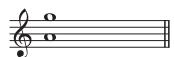
C to D includes only two degrees of the staff, C and D, so the interval is a second.



F to D (counting down) includes three letters of the alphabet, F, E, and D, so the interval is a third.



A to G includes seven degrees of the staff, so the interval is a seventh.



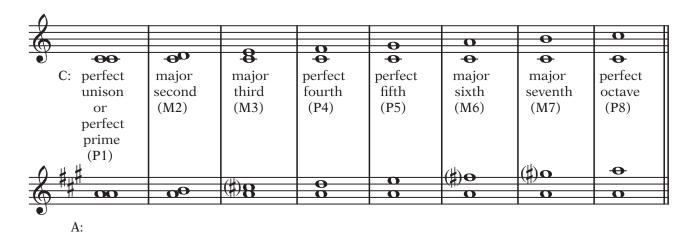
The quality of an interval is its distinctive sound. The interval of a second, for example, always includes two tones, but it is the number of half steps or whole steps between the two that dictates its quality. C-D\, C-D\, C-D\, C-D\, and C-D\, are all diatonic seconds, but each sounds different—each has its own unique quality.

4b Perfect and Major Intervals

Within a major diatonic scale, there are four perfect and four major intervals above the tonic of that scale. In the following examples, the perfect and major intervals are named from C or A, the root (tonic) in the scales of C or A major. In identifying the perfect and major intervals in other major keys, be sure to keep in mind the sharps or flats in the key signature.

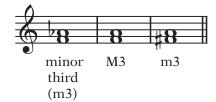
The perfect intervals are the unison, fourth, fifth, and octave and are called "perfect" because they are overtones that are closely connected to the fundamental tone (see 3c). Although the unison—*perfect prime*—cannot be counted by a total of letter names between the two tones, it is nevertheless an interval.

The major intervals are the second, third, sixth, and seventh. *Major* means "larger," as opposed to *minor*, which means "smaller."



4c Minor Intervals

A major interval made one half step smaller becomes a **minor** interval. The top tone is lowered one half step, or the bottom tone is raised one half step. Changing minor to major is the reverse.



In the unaltered natural minor scale (3k) there are four perfect, three minor, and one major interval above the tonic of the scale. In the following examples, the perfect, minor, and major intervals are named from C or A, the root (tonic) in the scales of c and a minor.

		4)		0	()0	(b) o	0
• • • • • • • • • • • • • • • • • • • •	- O O	(1)8	+ +	•	•	•	•
c: perfect unison or perfect prime (P1)	major second (M2)	minor third (m3)	perfect fourth (P4)	perfect fifth (P5)	minor sixth (m6)	minor seventh (m7)	perfect octave (P8)
<u> </u>	00		0	-0			

a:

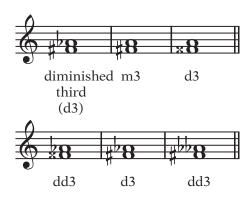
4d Diminished and Augmented Intervals

A minor interval made one half step smaller becomes diminished. The top tone is lowered one half step or the bottom tone raised one half step.

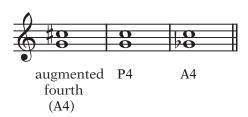
(*Rare*) A diminished interval made one half step smaller becomes doubly diminished. The top tone is lowered one half step or the bottom tone raised one half step.

A perfect interval made one half step smaller becomes diminished. The top tone is lowered one half step or the bottom tone raised one half step.

A perfect interval or major interval made one half step larger becomes augmented. The top tone is raised one half step or the bottom tone lowered one half step.







*P = Perfect

M = Major

m = minor

d = diminished

A = Augmented

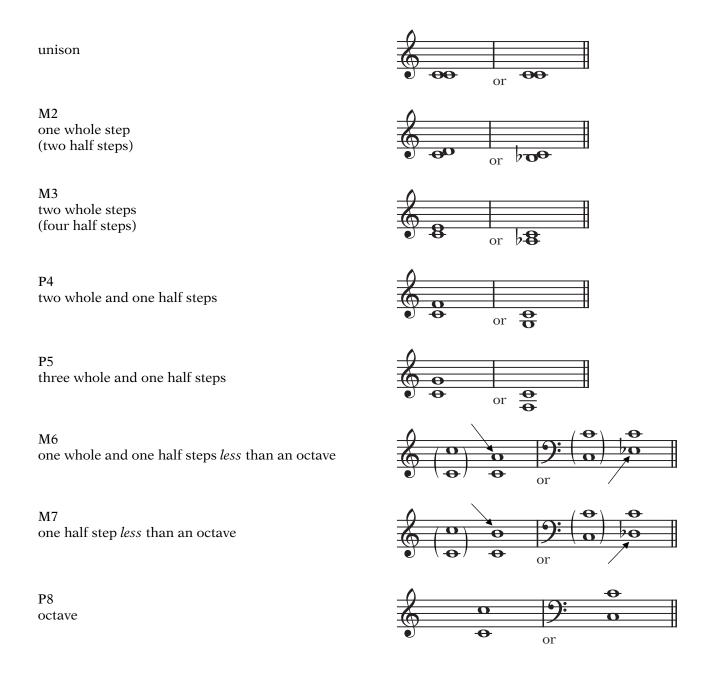
Half steps	+1	+2	-1	-2
P	A	AA	d	dd
M	A	AA	m	d

Perfect Intervals	Major Intervals
1, 4, 5, 8	2, 3, 6, 7
$\mathbf{d} \leftarrow \mathbf{P} \rightarrow \mathbf{A}$	$\mathbf{d} \leftarrow \mathbf{m} \leftarrow \mathbf{M} \rightarrow \mathbf{A}$
A perfect interval made one half step <i>larger</i> is augmented. A perfect interval made one half step <i>smaller</i> is diminished.	A major interval made one half step <i>larger</i> is augmented. A major interval made one half step <i>smaller</i> is minor.
	A major interval made two half steps <i>smaller</i> is diminished.

4e Constructing Intervals—By Half Steps and Whole Steps

Besides the number of letter names between the two tones, intervals can be identified and constructed by the number of whole and half steps they encompass. For the major second and third, and for the perfect fourth and fifth, memorize the number of whole and half steps above or below a given tone, as shown below. For the major sixth and seventh, memorize the number of whole and half steps *less than an octave* that each contains. For example, an octave above C is C; one diatonic half step below C is B. *Be sure you think diatonic*. So B is a major seventh above C. Or an octave *below* C is C; one diatonic half step above that C is Db, a major seventh below C. Again, it is important that you think *diatonic*. Once you identify the major or perfect interval, you can alter it to minor, diminished, or augmented by the methods described in sections 4c and 4d.

In this method of interval construction, write an interval, first observing the correct degrees of the staff. Then alter, if necessary, being sure of the correct diatonic spelling. For example, a major third above D (D-E-F) is F#, not Gb (D-E-F-G is a fourth).



Intervals in Order of Half Steps

Intervals in Order of Names

Intervals	Half Steps	Whole Steps
Unison – Perfect	0	0
Prime dim 2	0	0
Aug Prime	1	1/2
m 2	1	1/2
M 2 dim 3	2 2	1 1
Aug 2 m 3	3 3	1½ 1½
M 3 dim 4	4 4	2 2
Aug 3 P 4	5 5	2½ 2½
Aug 4 dim 5	6 6	3 3
P 5 dim 6	7 7	3½ 3½
Aug 5 m 6	8 8	4 4
M 6 dim 7	9 9	4½ 4½
Aug 6 m 7	10 10	5 5
M 7 dim 8	11 11	5½ 5½
Aug 7 P 8	12 12	6 6
Aug 8	13	6½

Intervals	Half Steps	Whole Steps
Unison –	0	0
Perfect		
Prime		
Aug	1	1/2
Prime		
M 2	2	1
m 2	1	1/2
dim 2	0	0
Aug 2	3	1½
М 3	4	2
m 3	3	1½
dim 3	2 5	1
Aug 3	5	2½
P 4	5	2 ½
dim 4	4	2
Aug 4	6	3
P 5	7	3½
dim 5	6	3
Aug 5	8	4
М 6	9	4½
m 6	8	4
dim 6	7	3½
Aug 6	10	5
M 7	11	5 ½
m 7	10	5
dim 7	9	4½
Aug 7	12	6
P 8	12	6
dim 8	11	5½
Aug 8	13	6½

or Less than an octave

or Less than an octave

dim 6	5	2½
m 6	4	2
M 6	3	1½
dim 7	3	1½
Aug 6	2	1
m 7	2	1
M 7	1	1/2
dim 8	1	1/2
Aug 7	0	0
P 8	0	0
I		

М 6	3	1½
m 6	4	2
dim 6	5	2½
Aug 6	2	1
M 7	1	1/2
m 7	2	1
dim 7	3	1½
Aug 7	0	0
P 8	0	0
dim 8	1	1/2

4f Constructing Intervals Downward

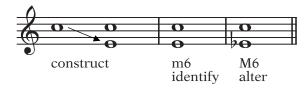
There are three methods of constructing an interval below a given tone, all of which apply to compound as well as simple intervals:

- 1. by identification and alteration
- 2. by counting whole steps and half steps (already described in section 4e)
- 3. by interval inversion

(1) METHOD IDENTIFICATION AND ALTERATION

Count down the correct number of letter names without considering accidentals. Then from the bottom tone identify the quality of the interval and, if necessary, alter the bottom tone to produce the desired interval. (Remember: *lowering* the bottom tone makes an interval larger; *raising* the bottom tone makes an interval smaller.)

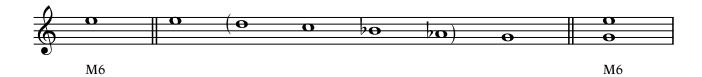
For example: what is a major sixth below C? E is the sixth pitch below C. E-C is identified from the bottom tone as a minor sixth. Therefore, the E must be altered *down* by a half step to $E \triangleright$. The interval is now a major sixth.



(2) METHOD COUNTING BY WHOLE AND HALF STEPS

See section 4e for a description of this method.

For example: what is a major sixth below E? It is four whole steps plus one half step below.



(3) METHOD BY INTERVAL INVERSION

If you are at ease finding intervals above a note you may find intervals below a given note by following a few simple rules. (1) Remember that an *inverted* interval adds up to nine—a third above C is E and a sixth below C is E. (2) In inversion the quality of the interval changes from major \leftrightarrow minor, augmented \leftrightarrow diminished, and perfect \leftrightarrow perfect. For example, what is a minor third below A? A major sixth *above* A is F‡; therefore, a minor third *below* A is also F‡.

1. An interval and its inversion will always add up to *nine*.

A second inverted is a seventh.

A third inverted is a sixth.

A fourth inverted is a fifth.

A fourth inverted is a fifth.

A seventh inverted is a second.

2. The quality of an interval will change when it is inverted, with the exception of the perfect intervals.



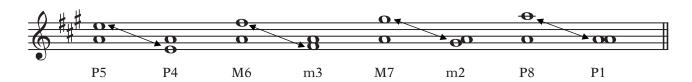
An augmented interval inverted is diminished and a diminished interval inverted is augmented.

AA ← → dd

A doubly augmented interval inverted is doubly diminished and a doubly diminished interval is doubly augmented.

Inversion of Intervals





4g The Tritone

When all the fourths of the major scale are arranged in order, the one built on the fourth degree of the scale is one half step larger than a perfect fourth; therefore, it is augmented. The augmented fourth contains *three whole steps*, so it is called the **tritone**, meaning "three tones." In a melodic progression, the tritone sounds awkward. In early music it was forbidden, and was referred to as "the devil in music." In certain contexts, including student work, the rule prohibiting the melodic tritone is still observed.

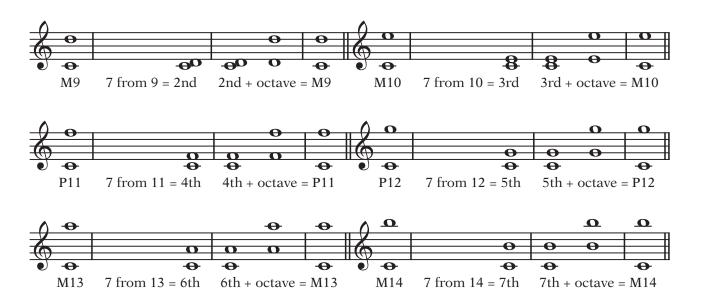
4h Simple and Compound Intervals

A **simple interval** is an interval of less than an octave. A **compound interval** is an interval of an octave or greater. It is easier and more convenient to reduce the compound interval to a simple interval plus an octave. Subtract seven from the compound number and it will give you a quick simple interval equivalent.

7 from 10 is a third; a third plus an octave equals a 10th.

7 from 12 is a fifth; a fifth plus an octave equals a 12th.

The terms major and perfect also apply to the compound intervals. An 11th is a 4th plus an octave and is called a perfect 11th. A 13th is a 6th plus an octave and is called a major 13th.



Compound Intervals in Order of Names

M 9 m 9 d 9 A 9	P8+M2 P8+m2 P8+d2 P8+A2
M 10 m 10 d 10 A 10	P8+M3 P8+m3 P8+d3 P8+A3
P 11 d 11 A 11	P 8 + P 4 P 8 + d 4 P 8 + A 4
P 12 d 12 A 12	P8+P5 P8+d5 P8+A5
M 13 m 13 d 13 A 13	P8+M6 P8+m6 P8+d6 P8+A6
M 14 m 14 d 14 A 14	P8+M7 P8+m7 P8+d7 P8+A7
P 15 d 15 A 15	P8+P8 P8+d8 P8+A8

4i Hearing and Singing Intervals

The ability to hear and sing intervals is the single most important skill for students to master. This ability helps greatly in melodic singing and dictation, since a melody is, of course, a horizontal series of intervals. Knowing the sound of the intervals is also indispensible in learning to hear chords, which will be discussed in Unit 6.

The following examples are the opening phrases of familiar tunes, which include the intervals discussed in this unit (shown by brackets above the notes). Sing the tunes until you are thoroughly familiar with them. They will help you to memorize the particular sound—the quality—of each interval. Transpose the tunes to other keys as soon as you are familiar with them in C.



Other songs with an m2: Theme from Jaws or "Stormy Weather"



Other songs with an M2: "Chopsticks" or "Silent Night" or "She'll Be Comin' 'Round the Mountain"



Other songs with an m3: "Greensleeves" or "The Impossible Dream"



Other songs with an M3: "Kum Ba Yah" or "The Marine's Hymn" ("From the Halls of Montezuma . . . ")



Other songs with a P4: Wagner's "Wedding March" ("Here Comes the Bride") or "Taps"

"Maria," from *West Side Story* (transposed from original key of E_b)



Other songs with an A4: Simpsons Theme ("The Simp-sons")



Other songs with a P5: Star Wars Theme or Superman Theme or "Do You Hear What I Hear?"



Other songs with an m6: Theme from *The Entertainer*



Other songs with an M6: NBC Theme

"Somewhere," from *West Side Story* (transposed from original key of E major)

Leonard Bernstein

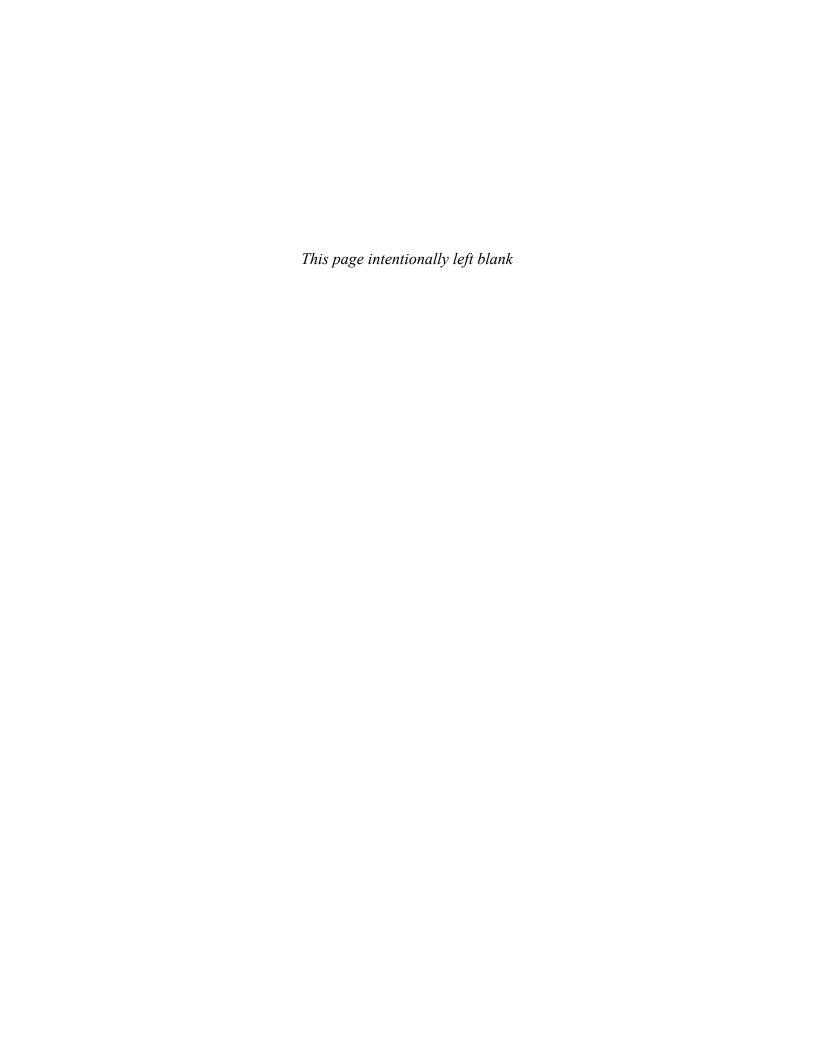




Other songs with an M7: Superman Theme



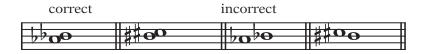
Other songs with a P8: "Over the Rainbow"

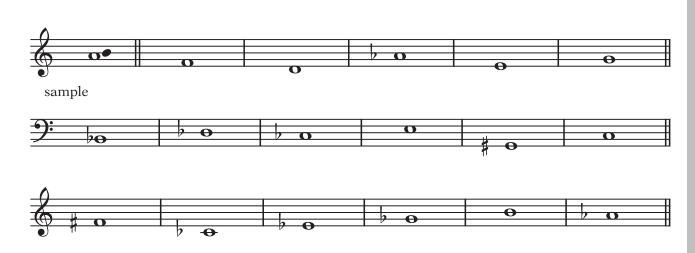


4b

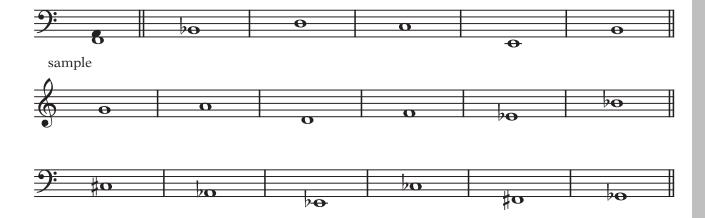
Complete the following by adding major seconds above the given notes.*

*Notation of the second requires the notes to touch, the higher note to the right. Accidentals are placed in front of both notes, following the same pattern as the notes; the lower accidental to the left and the upper accidental to the right.





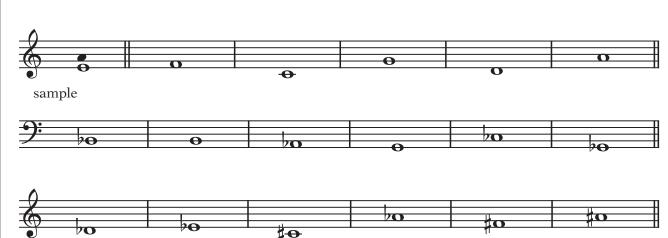
Complete the following by adding major thirds *above* the given notes.



4b

Complete the following by adding perfect fourths *above* the given notes. Notice that all perfect fourths are $\fieldsymbol{1}$, $\fieldsymbol{2}$, $\fieldsymbol{2}$, $\fieldsymbol{3}$, $\fieldsymbol{4}$



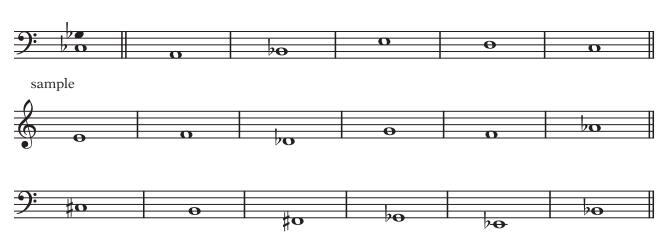


WORKSHEET 4-2

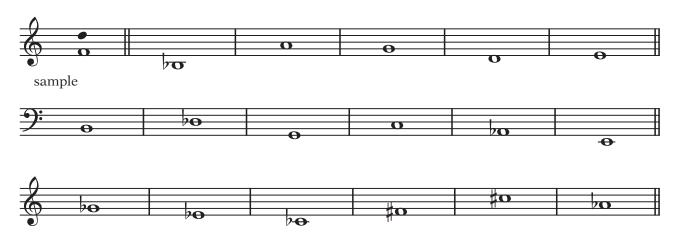


NAME _____

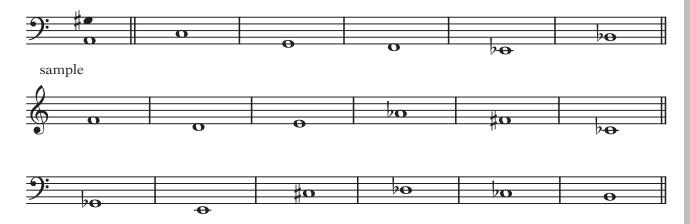




Complete the following by adding a major sixth *above* the given notes.

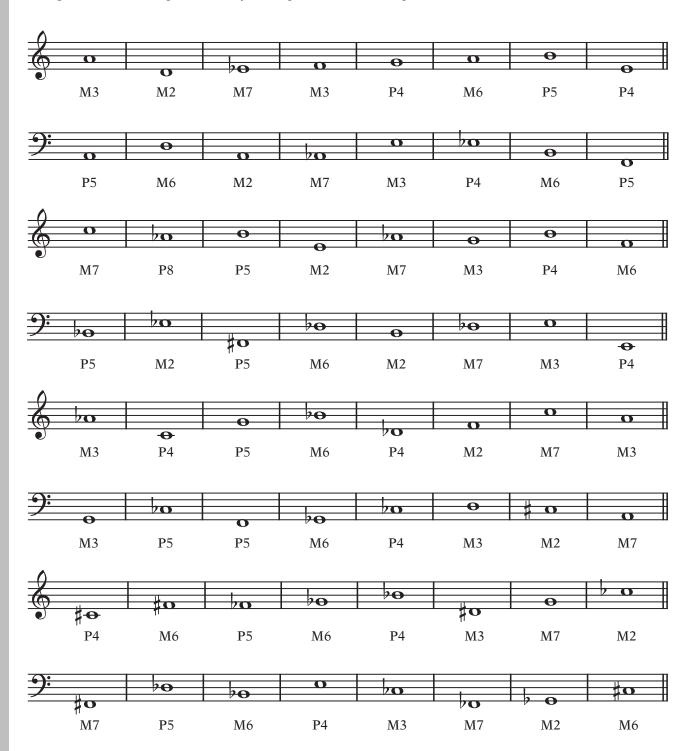


Complete the following by adding a major seventh *above* the given notes.





4b Complete the following intervals by adding a note *above* the given note.



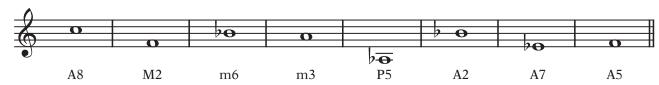
Answers for line one.



Complete the following intervals by adding a note *above* the given note.















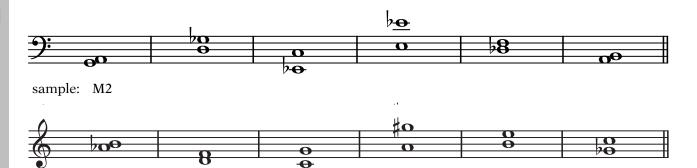


Answers for line one.



4b 4c 4d

Identify the following intervals by number and quality using the abbreviations P, M, m, d, or A.















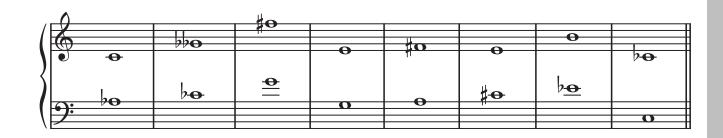


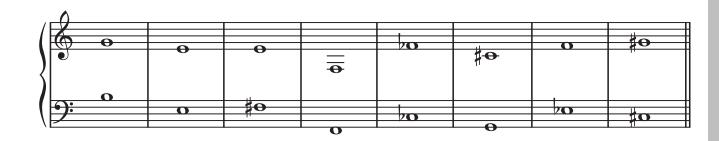
Identify the following intervals by number and quality using the abbreviations P, M, m, d, or A.

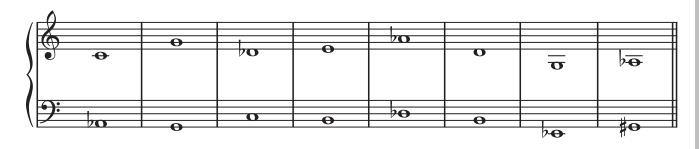
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sample: P4

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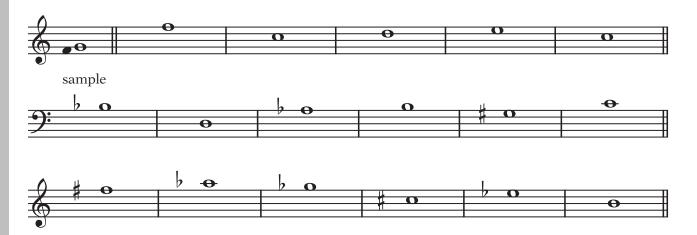




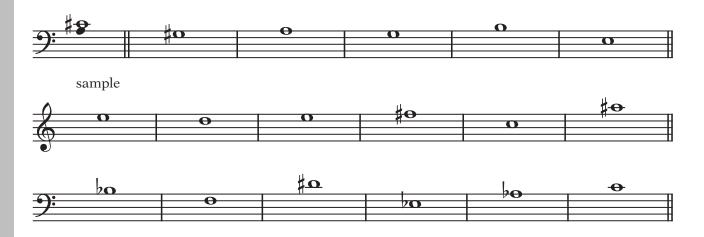


4f

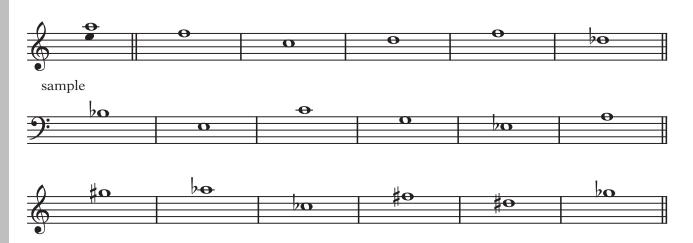
Complete the following by adding major seconds *below* the given notes.



Complete the following by adding a major third below the given note.



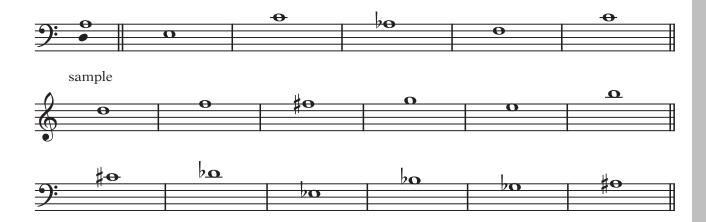
Complete the following by adding a perfect fourth below the given note. Notice that all perfect fourths are \delpha - \delpha , \delpha - \delpha , or \delpha - \delpha , except for B \delpha to F and B to F \delpha .



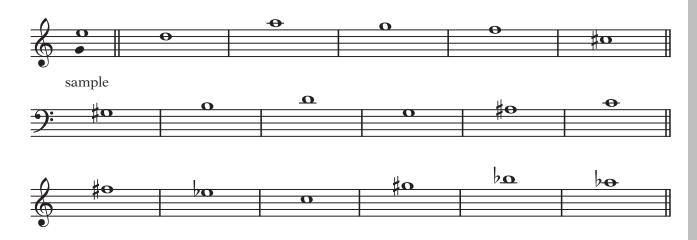




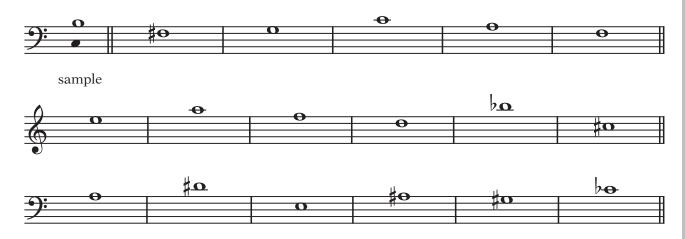
Complete the following by adding perfect fifths *below* the given notes. Notice that all perfect fifths are $\del{4-4}$, $\del{4-4}$, except for F to B $\del{4-4}$ and F $\del{4-4}$ to B.



Complete the following by adding a major sixth *below* the given note.

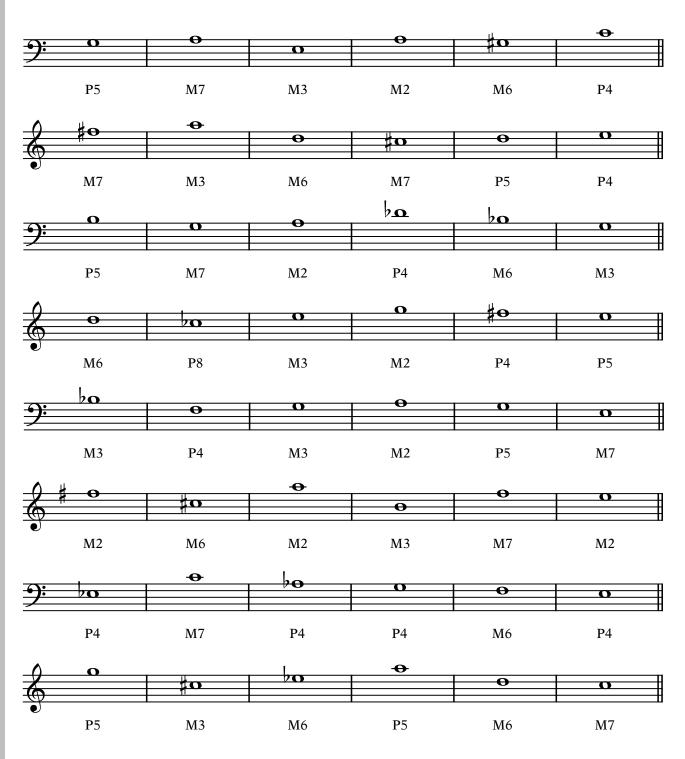


Complete the following by adding a major seventh below the given note.





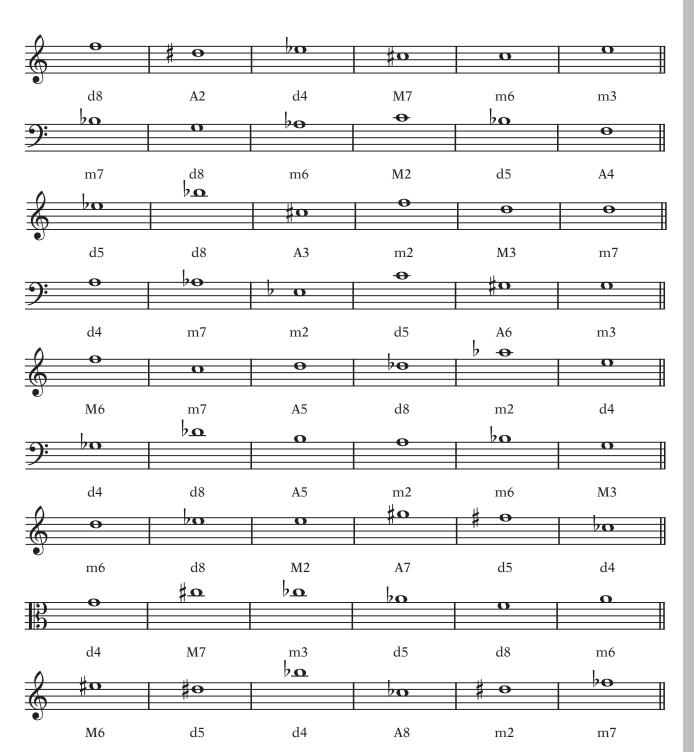
4f Complete the following intervals by adding a note *below* the given note.



Answers for line one.



Complete the following intervals by adding a note *below* the given note.



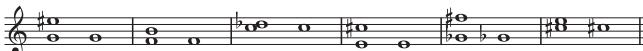
Answers for line one.



4f

Identify the first interval, invert the interval, then identify the inversion.









Identify the interval, then invert the interval by placing the bottom note of the interval above.

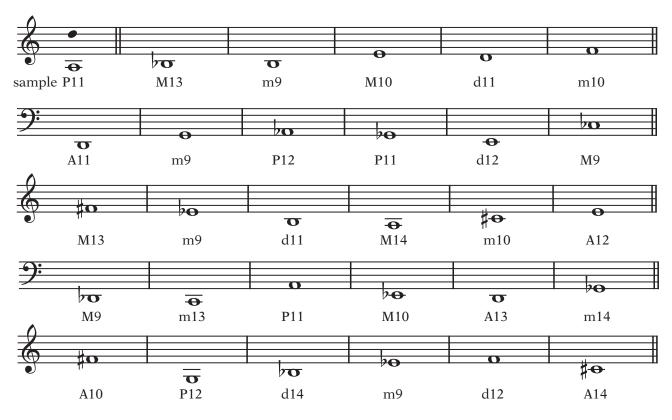




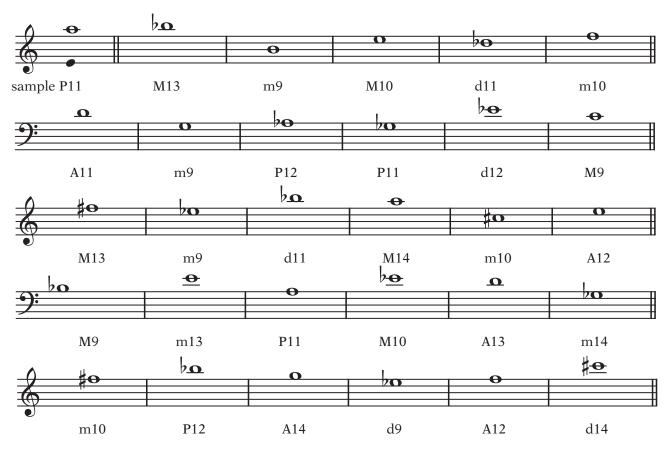




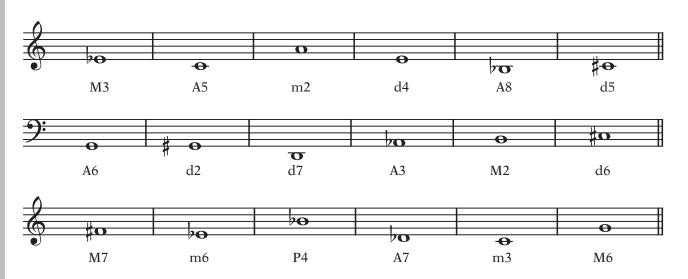
Complete the following compound intervals by adding a note *above* the given note.



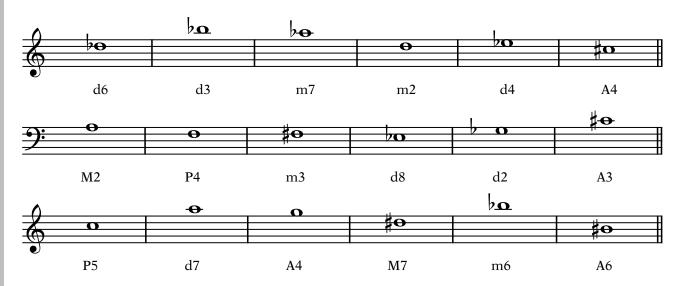
Complete the following compound intervals by adding a note *below* the given note.



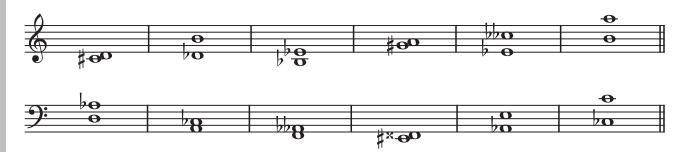
1. Complete the following intervals by adding a note *above* the given note.



2. Complete the following intervals by adding a note *below* the given note.



3. Identify the following intervals by number and quality using the abbreviations P, M, m, d, or A.



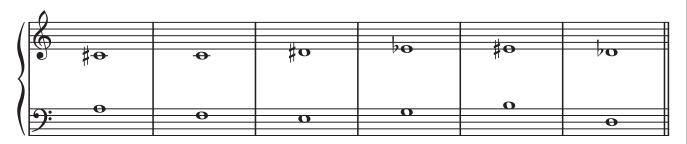
4. Identify the interval, then invert the interval by placing the top note of the interval below.



5. Identify the interval, then invert the interval by placing the bottom note of the interval above.



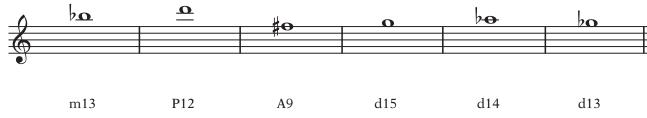
6. Identify the following intervals by number and quality using the abbreviations P, M, m, d, or A.



7. Complete the following compound intervals by adding a note *above* the given note.



8. Complete the following compound intervals by adding a note *below* the given note.



9. Identify the following intervals by number and quality using the abbreviations P, M, m, d, or A.

